CB Action

AUSTRALIA'S ONLY CB MAGAZINE

JULY AUGUST 1988 $3.00

SANGEAN'S ATS-803

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FEEDING 27MHz LONGWIRES

CBA ARGENT WORDMAZE

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PLACE OF PRINTING
Quadricolor Industries
Lake Drive, Dingley, Vic.

PROPRIETOR
NEWSPRESS, A Division of
Syme Media Pty. Ltd.
250 Spencer Street,
Melbourne, 3000

CB ACTION is distributed in Victoria by Magdiss Pty. Ltd. 250 Spencer St, Melbourne 3000; in S.A. by John Fairfax & Sons Limited; in Tasmania by The Mercury, 93 Macquarie St, Hobart 7000; in N.S.W., Queensland, W.A. and New Zeland by Network Distribution Company, 54 Park St, Sydney 2000.

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- Modulation/Signal Indicators
- LOC/DX & ANL Switching
- LED Function Indicators

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AE421
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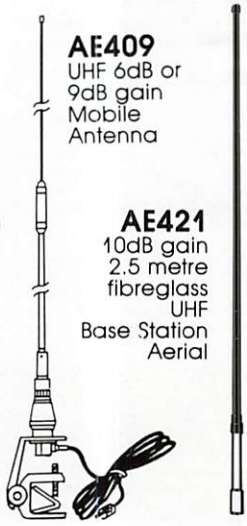


REGULATED POWER SUPPLIES

240V AC to 13.8V DC
PSE122 2 AMP
PSE124 4 AMP
PSE126 6 AMP
PSE1210 10 AMP

REGULATED VOLTAGE REDUCERS

24V DC to 13.8V DC
VR1-3 3.5 AMP
VR2-5 5 AMP
VR3-10 10 AMP
VR4-20 20 AMP

On Channel

We are having a stiff trot here this issue — a couple of our regular columns have turned up missing right on deadline, and some rigs promised for review didn't quite make it in time due to production difficulties. We've done the best we can under the circumstances, but don't look for Flynn's column, or Down South — they both went west this issue.

★ ★ ★

One for the "Bad News Travels Fast" department. Yet again I've moved my domicile (10/20 — if you insist), and during the move my new neighbor — a lady of advancing years — took a keen interest in what was being carried into the house. All went well until the Hill's collapsible mast made an appearance along with a couple of antennas, whereupon she put the question to my laborer-for-the-day regarding my interest, if any, in CB, Amateur radio or the like.

Being quite naive about such matters, my laborer offered the opinion that I might have some interest as he had noticed a "couple of radios from time to time". You can see it coming, can't you — before the ink was dry on the tenancy agreement, the dear old thing was knocking at the front door with three Ma Kettle clones at her heel, accusing me of TVI, BCI and whatever else they could lay tongue to.

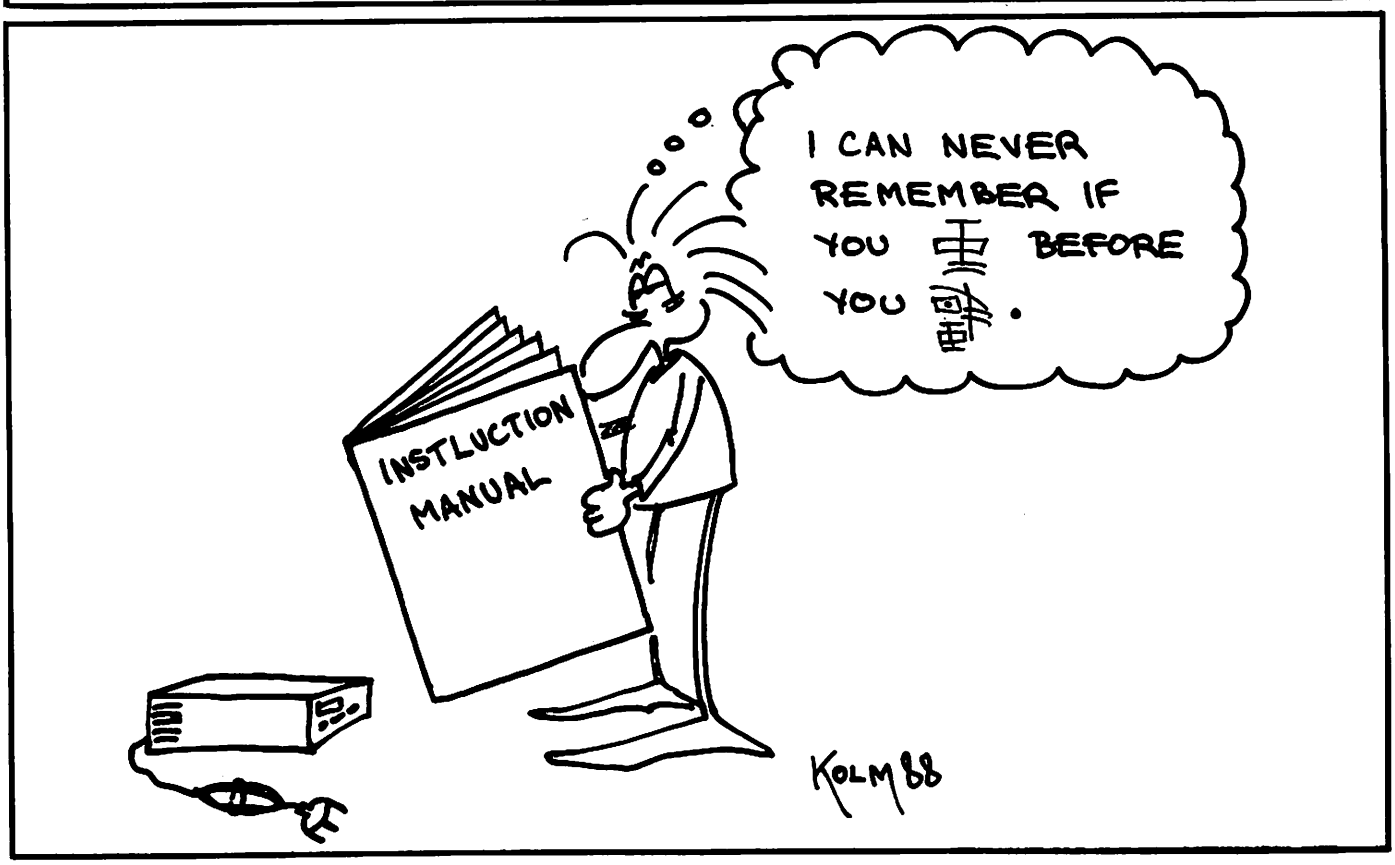
The fact that the antennas, mast and rigs were either laying on the ground, in the shed, or still packed in cartons didn't matter — I had been found guilty with no right of appeal. How do you convince four old biddies who don't know a watt from a whatnot that it ain't possible . . .?

I'm open to suggestions — I just hope that the RIs have better luck than I did. Maybe they will have a way with words which surpasses my meagre talents but, until then, I'm QRT.

★ ★ ★

Maybe the blue-rinse set has put the mokkers on any two-way conversations, but the scanner is still in operation, and anyone who thinks that scanning doesn't have a place needs their head read. A couple or three weeks ago I had the enviable task of checking out a charter yacht at Hamilton Island for five days. Due to a late start to the jaunt brought about by bad weather, the skipper decided to stay out for an extra night, which was fine except for the fact that my photographer and myself were both dangerously low on nicotine sticks. About an hour before dusk, the aforesaid photographer took the tender to try to hook a couple of fish for dinner, and I turned on the scanner for some company, tuning to the local frequencies which I had sussed out during the previous couple of days. I happened across a conversation between one of the "upmarket" Hamilton Island cruise boats which I had written up last year, and its base. The cruise boat was informing base of its overnight anchorage, which just happened to be exactly where I was, sipping a cold XXXX and contemplating a nicotine-less night.

A quick call on the appropriate VHF marine frequency got the desired results — six packets of fags delivered by fast Zodiac inflatable, and a cynical look from my photographer when I tried to tell him that I swam down to the 7-eleven store to pick 'em up. Don't tell me that scanners haven't got their uses.



MOBILE ONE COMMUNICATIONS SYSTEMS — MAGNETIC MOUNT

MAG 12C — MOBILE MAGNET MOUNT

THE *MAG 12C* MAGNETIC MOUNT ASSEMBLY HAS BEEN MANUFACTURED IN AUSTRALIA TO MEET THE VARYING NEEDS OF THE MOBILE USER, WHO REQUIRES AN EASILY REMOVABLE ANTENNA MOUNT FOR PORTABLE APPLICATIONS.

FOR SOME TIME, IT HAS BEEN NOTED THAT A NEED EXISTED FOR A GOOD MAGNETIC BASE MOUNT THAT GRIPS THE CAR AT HIGH SPEEDS AND WILL ALSO TAKE A WIDE RANGE OF ANTENNA TYPES.

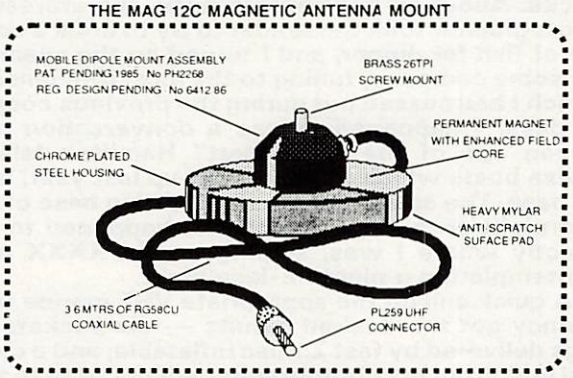
THE PERMANENT MAGNET'S ENHANCED FIELD CORE ALLOWS THE MAGNETIC BASE MOUNT TO BE USED AT SPEEDS OF 100KPH+ WITH A 60" (1.5mtr) WHIP.

MOST AUSTRALIAN STANDARD 5/16" x 26TPI FEMALE SCREW THREAD WHIPS (TO A MAXIMUM WEIGHT OF 200 GRAMS) CAN BE USED WITH THE *MAG 12C*.

ALL TERMINATIONS ARE ENCAPSULATED IN THE GLASS IMPREGNATED NYLON MOULDING OF THE NEW "MOBILE DIPOLE MOUNT" BASE ASSEMBLY, (PATENT & DESIGN REG. PENDING) GIVING MAXIMUM MECHANICAL STRENGTH AND TOTAL WEATHER PROTECTION FOR ALL ELECTRICAL CONNECTIONS.

ANOTHER FEATURE OF THIS UNIQUE MOUNT IS THE ANTI-SCRATCH PROTECTION PAD, MADE FROM MYLAR FIBRES. IT IS TOUGH AND LONG LASTING, YET WILL NOT SCRATCH OR DAMAGE THE PAINTWORK OF YOUR VEHICLE.

THE MAG 12C MAGNETIC ANTENNA MOUNT


MOBILE DIPOLE MOUNT ASSEMBLY
PAT. PENDING 1985 No PH2268
REG. DESIGN PENDING No 6412 86
BRASS 26TPI SCREW MOUNT
PERMANENT MAGNET WITH ENHANCED FIELD CORE
CHROME PLATED STEEL HOUSING
HEAVY MYLAR ANTI-SCRATCH SUFACE PAD
3.6 MTRS OF RG58CU COAXIAL CABLE
PL259 UHF CONNECTOR

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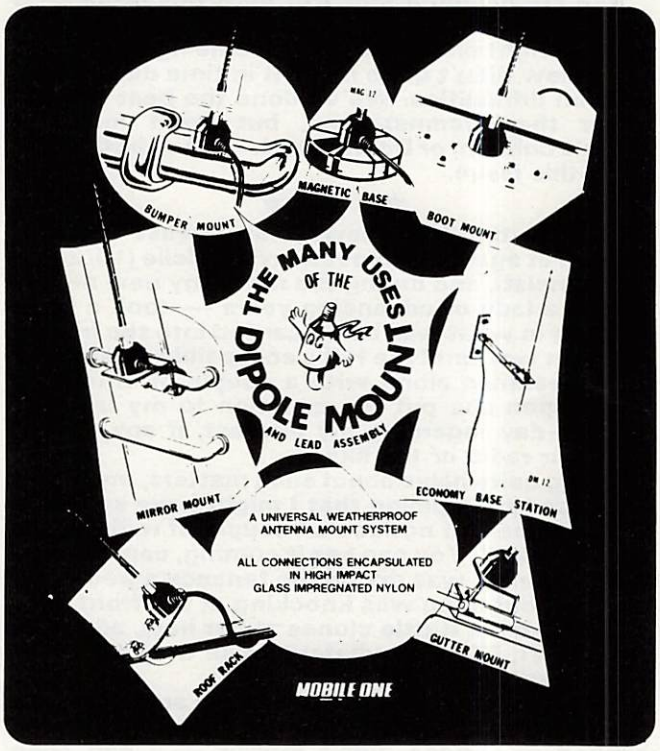
MOBILE ONE COMMUNICATIONS SYSTEMS — DIPOLE MOUNT



MOBILE ONE COMMUNICATIONS SYSTEMS — DIPOLE MOUNT

MOBILE DIPOLE MOUNT ASSEMBLY

REG. DESIGN No. 6412 / 86 - PATENT PENDING No. PH2268

FEATURES

THE **MOBILE DIPOLE MOUNT ASSEMBLY** IS A NEW REVOLUTIONARY AND **TOTALLY WEATHER-PROOF** ANTENNA MOUNTING SYSTEM FOR THE HF AND VHF BANDS.

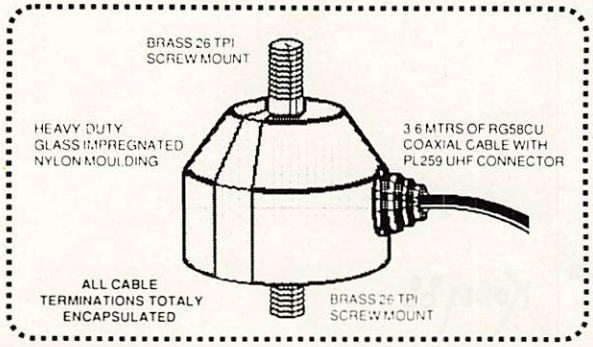
OVER THE YEARS, THE ANTENNA USER HAS HAD A VAST ARRAY OF DIFFERENT MODEL ANTENNAE TO CHOOSE FROM, YET ANTENNA MOUNTING SYSTEMS HAVE REMAINED VIRTUALY UNCHANGED, AND TERMINATIONS HAVE TIPICALLY BEEN EXPOSED TO THE ELEMENTS.

NOW, THROUGH MOBILE ONE'S UNIQUE INJECTION MOULDING PROCESS, A WHOLEY SELF CONTAINED, TOTALLY ENCAPSULATED, SHOCK PROOF AND WEATHER RESISTANT ANTENNA MOUNTING SYSTEM HAS BEEN CREATED.

THIS UNIQUE CONCEPT MEANS THAT YOU CAN NOW MOUNT YOUR ANTENNA DIRECT TO A MAGNETIC BASE MOUNT, BOOT MOUNT, GUTTER MOUNT, MIRROR OR ROOF RACK MOUNT.

AN ECONOMICAL BASE STATION ANTENNA CAN ALSO BE CONSTRUCTED.

MOST OF THE EVERY DAY MOUNTING APPLICATIONS YOU CAN THINK OF WILL READILY UTILISE THE MOBILE DIPOLE MOUNT ASSEMBLY.


BRASS 26 TPI SCREW MOUNT
HEAVY DUTY GLASS IMPREGNATED NYLON MOULDING
3.6 MTRS OF RG58CU COAXIAL CABLE WITH PL259 UHF CONNECTOR
ALL CABLE TERMINATIONS TOTALY ENCAPSULATED
BRASS 26 TPI SCREW MOUNT

MOBILE ONE COMMUNICATIONS SYSTEMS — BOOT MOUNT

S B M — STAINLESS BOOT MOUNT

FEATURES

THE MOBILE ONE **STAINLESS BOOT MOUNT** IS AN AUSTRALIAN MADE ANTENNA MOUNTING SYSTEM DESIGNED AS A SUBSTITUTE FOR FRONT OR REAR GUARD MOUNTING AND FITS THE BONNET OR BOOT OF MOST VEHICLES.

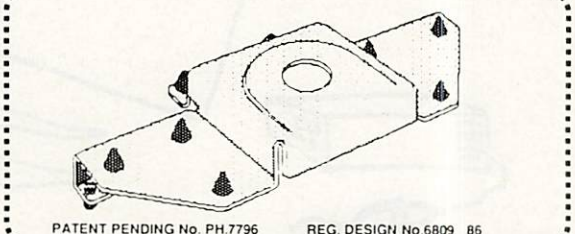
THE UNIQUE FEATURE OF THE **S.B.M.** IS THAT IT CAN BE INSTALLED WITHOUT DRILLING HOLES OR DAMAGING THE VEHICLE.

USED IN CONJUNCTION WITH THE PATENTED **'MOBILE DIPOLE MOUNT' 'A12C'** (HF VHF) **'UL12C'** (UHF) BASE AND LEAD ASSEMBLY IT IS POSSIBLE TO MOUNT WHIPS WITH THE AUSTRALIAN STANDARD 5/16" x 26 TPI FEMALE SCREW THREAD.

WITH THE ADDITION OF A SUITABLE CONNECTOR SUCH AS THE **S.O.C.** COAXIAL SO239 BASE TYPE, THE MOUNT CAN THEN ACCOMMODATE WHIP ANTENNAE WITH A PL259 BASE TERMINATION.

INSTALLATION

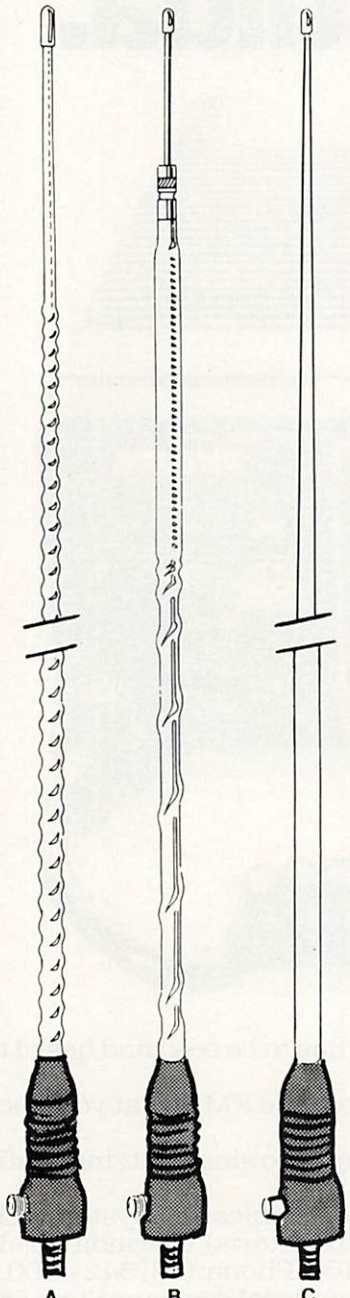
1. INSTALL APPROPRIATE BASE ASSEMBLY ONTO MOUNT
2. OPEN THE BOOT OR BONNET
3. SLIDE THE BOOT MOUNT OVER THE LIP OF THE BOOT OR BONNET
4. SECURE THE STAINLESS STEEL SCREWS WITH THE ALLEN KEY PROVIDED
5. RUN COAXIAL CABLE INSIDE TO THE TRANSMITTER AND VSWR ANTENNA



PATENT PENDING No. PH.7796 REG. DESIGN No.6809 86

MOBILE ONE
COMMUNICATIONS SYSTEMS

S.A.M.



SPRING ASSEMBLY MOUNT

PATENT PENDING 1985 - PH2268
DESIGN REG. PENDING - 1644-85

This Heavy Duty Base has been designed to fulfil the requirement for a solid yet light duty mounting assembly to support a wide selection of mobile antennae, that are normally subject to continual abuse as would be found in such applications as on trucks and four wheel drive off-road vehicles.

Construction is of high impact polycarbonate and all parts have been suspended in this material by an injection moulding process, subsequently all internal workings are fully protected from the ingress of moisture, dust and dirt.

Termination is provided by a Mil-Spec SO239 Connector protruding from the central core of the assembly.

The external mounting bolts, as with the mounting hardware have been plated with a special marine grade nickel-cadmium finish.

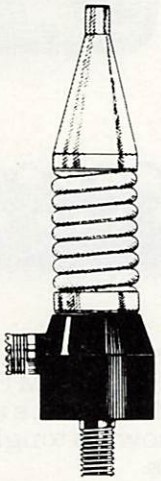
Mounting is provided by 1/2" whitworth brass bolts and includes a lock washer, star washer and locking nut, so as to prevent the assembly from coming loose due to vibration and shock.

SUPER SPRING ANTENNAE

DX270SS - 'SKIPWHIP' DRAWING A
With Super Spring base assembly. 72" (1.83mtr)
Constant turn 1/4 wave Whip ~ 500 watts
(Ideal for Bumper Bar or Bull Bar Mount)

DX560SS - 'MONSTER STICK' DRAWING B
With Super Spring base assembly. 60" (1.53mtr)
Heavy Duty Adjustable Tip ~ 250 watts.
(Ideal for Roof Rack or Bull Bar Mounting)

DX350SS - 'MOBI-DICKSTICK'
With Super Spring base assembly. 50" (1.27mtr)
Light Duty Adjustable Tip ~ 100 watts
(Ideal for Roof Rack or Mirror Bracket Mounting)



DX9AS - DRAWING C
With Super Heavy Duty Base Assembly. 100' (2.54mtr)
Computer designed fibreglass encapsulated 1/4 wave radiator for 10 / 11 Mtr bands
(Ideal for Bumper Bar or Bull Bar Mounting)

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You get advanced technology at an affordable price.

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SSB/PCS 186

LOG BOOK

27MHz — AM OR FM?

The future of 27MHz is still in limbo, as Australian CBers await release of the DoTaC's report on proposals to removed this mode from the CBers.

The Department's call for feedback on the subject was well received, with hundreds of submissions being made by clubs, individuals and the CB industry. Having taken these into consideration, it should only be a matter of months before the final decision is known.

Sources close to the Department have indicated that the 'no-change' option (the retention of 27MHz AM) is still in the game, although 27MHz FM has many attractions and also cannot be dismissed easily. How about a bob each way?

Meanwhile, the industry isn't letting grass grow under it's feet. One major importer, has already carried out evaluations on a numbr of 27MHz rigs, with a range of mobiles and a base station ready to be marketed if DoTaC dumps AM in favour of FM.

OPPORTUNITY KNOCKS

Now here's an opportunity — the chance to buy into a well established communications store in one of Sydney's prime areas.

David Smith, owner of the Sydney CB Radio Centre, is interested in hearing from any potential buyers of the shop, which has been in operation for several years and represents all leading brands of 27MHz and UHF CB radio, antennas and accessories.

It is also involved in cellular phones and marine radio — both of which are immensely popular in the affluent northern suburbs surrounding the store, where success in business and a high-quality leisure lifestyle go hand-in-hand.

And there's no shortage of goodwill, either — the Sydney CB Radio Centre has a loyal and well-developed customer base, built up by close association with such projects as the Sydney Radio Field Days and the best-selling 1988 Australian CB Radio Guide, as well as their involvement with local CB clubs.

This represents an ideal situation for the hobbyist who wants to become a part of this growing industry, or for an established communications company seeking an additional retail outlet in Sydney.

Genuine enquiries are invited to call David Smith on (02) 913 1616.

DO YOU WORK DX?

If you're a DX freak and can, hopefully, type, we're interested in receiving a regular DX report from you for CB Action.

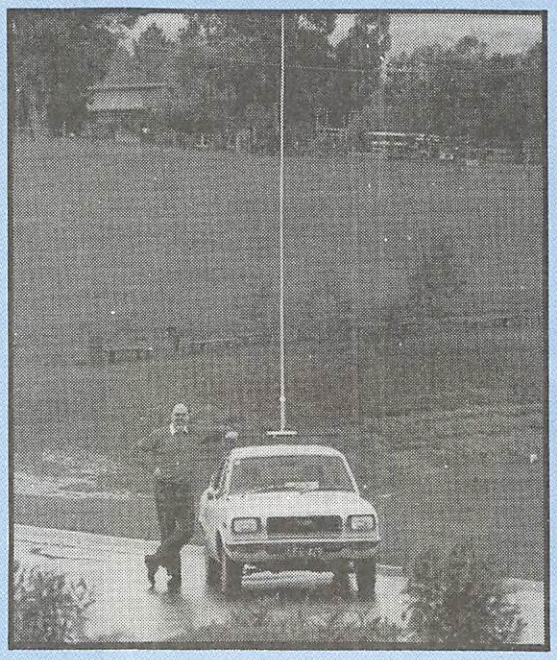
Ideally, we would like someone from each State to contribute about 500 to 1,000 words every second month to keep CB DXers up with what's skipping in from where and when.

We pay for the report and, while you're never going to get rich, it will at least keep you in beer and cigarettes.

If you're interested, drop a note to Len Shaw, CB Action, P.O. Box 628E, G.P.O. Melbourne 3001.

MONSTER SKYHOOK

Neville, VGD 189 doesn't skimp when it comes to antennas.



It may look ridiculous on his vehicle, but Neville gets great results working stationary mobile using his half-wave "Itron" EL5/11V27 MHz base antenna. He can regularly copy stations over 150km away on sideband and reckons it must be the ultimate mobile antenna, but we figure he'd have trouble with the overhead power lines.

CBA LINKS WITH BRITISH CB MAG

Your favorite Australian CB magazine (that's us, stupid!) has established a 'meaningful relationship' with our sister journal in England — 'CB Radio'.

Anyone who has kept an eye on the UK scene over the past years will agree tht it is an interesting one indeed. They are one of the few countries who, like ourselves, operate a dual-band (HF/UHF) CB service, although both 27MHz and 930MHz allocations use FM only.

CBA is compiling a comprehensive report on CB in the UK, which will appear in the near future and should generate much interest — especially if DoTaC decides to go ahead with 27MHz FM in Australia.

We will continue to carry reports from the UK and Europe as other developments of interest arise.

For our part of the bargain David Flynn is now contributing a monthly column on 'CB Radio' magazine, following his cover story on CB in Australia.

Overseas readers are reminded that we welcome any insight into CB radio in other countries

CHIRNSIDE ANTENNAS

Oops . . . last issue, we were so enthusiastic about the range of Chirnside antennas available from Argent Communications that we forgot to mention that these popular amateur aerials are also available from the equally popular Emtronics stores.

Emtronics carry the complete

LOG BOOK

range, from monoband to multiband beams, verticals and mobile whips.

A QUIET NIGHT IN THE BIG CITY . . .

Overheard on Sydney's 24 hour 'action radio' . . . VKG calls for a vehicle to investigate complaints of a young woman acting suspiciously in a phone booth. All cars on duty are busy, so there are no takers.

VKG patiently calls again some ten minutes later, but still no joy.

Another ten minutes pass by, and the informant calls the police again to advise that the woman is still there, and has now taken off her clothes.

VKG relay this information, and — you guessed it — the channel is suddenly jammed with every general duties car in the district, two detectives' cars, a highway vehicle, foot patrol, the dog squad and a Tactical Response Group!

NEW FACES AT ARGENT

Regular customers to Blacktown's former Marr Communications will have noticed more than a few changes, not the least of which has been the return of the original 'Argent' name to the company.

The showroom has been refitted and redesigned, to give more space for the customer and better display of the equipment — which now includes new products such as amateur radios from Icom and cellular mobile telephones from Philips and Audiovox.

In charge of all this is Bob Hudson, Argent's new Communications Manager, Bob was formerly working in industrial electronics, with both digital and analog systems. He has been involved in CB and amateur radio (callsigns VK2VKP/VK2YVO) since the early 1970s, and is currently President of the Castle Hill Amateur Radio Club.

Bob told CBA that one of his aims will be for Argent to continue their service of Sydney's western suburbs, which has been neglected for so long by other CB and amateur stores.

To this end, Argent have supplied two high gain colinear antennas for Sydney's ch. 4/34 UHF repeater. These have been mounted on a new mast provided by a western suburbs transport company.

Argent Managing Director, Mr Michael Payne, said that he was pleased to support 4/34, as it provides a useful and needed service to UHF operators, both hobbyist and commercial, in Sydney's outer west.

With Argent's recent acquisition of the service specialist company ANCS, their repair workshop has been upgraded with a wide variety of test equipment — and a new Service Manager, too.

John Meekings is already well-known in Sydney's UHF CB circles, as a keen experimenter who has designed and installed a number of 477MHz repeaters over the years.

John was an early member of Sydney's original XT club back in 1971 (with the callsign of XT Zero), and believes that Argent's customers are simply "people who want to use their radios, and keep using them — for truckies and businesses, being without a radio can be very expensive".

"Our job is to get the rigs back on air and keep them there, so we have a service warranty of three months, with equipment being given a complete tune-up and bench test before we hand it back to the customer".

(Last issue, we were so enthusiastic about the range of Chirnside Antennas available from Argent Communications that we forgot to mention that these popular amateur antennas are also available from the equally popular Emtronics stores.

Emtronics carry the complete range, from monoband to multi-band beams, verticals and mobile whips. Our apologies to Rudy, John and Elizabeth for this oversight).

BETTER LATE THAN NEVER. .

Congratulations to our resident scanning writer Russell Bryant, whose profile of scanning in Australia was recently featured in well-known American magazine 'Popular Communications'.

Mind you, they took their time printing it — Russell wrote it for them some three years ago! And some of our contributors reckon we drag the tail. . .!

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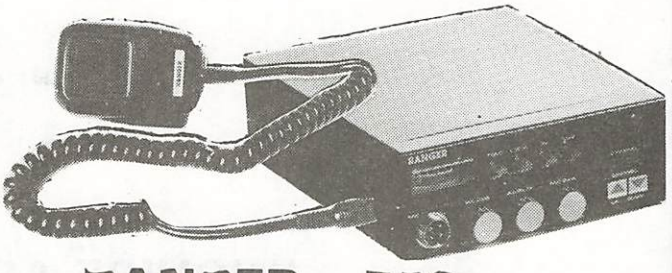

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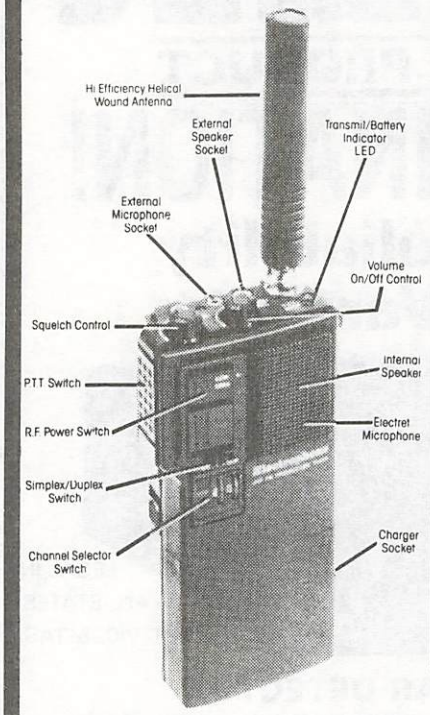

AE475

LC475-2

BP475-1

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LC475-2 Wrist Carry Strap
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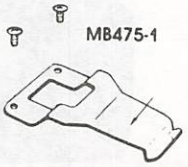
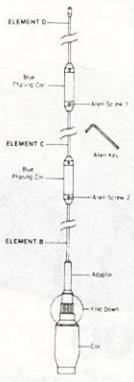
BP475-1 450 mAh Nickel Cadium 4.5 hours Quick Charge Battery Pack


MB475-1

LC475-1

BC12120



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RIG REVIEW

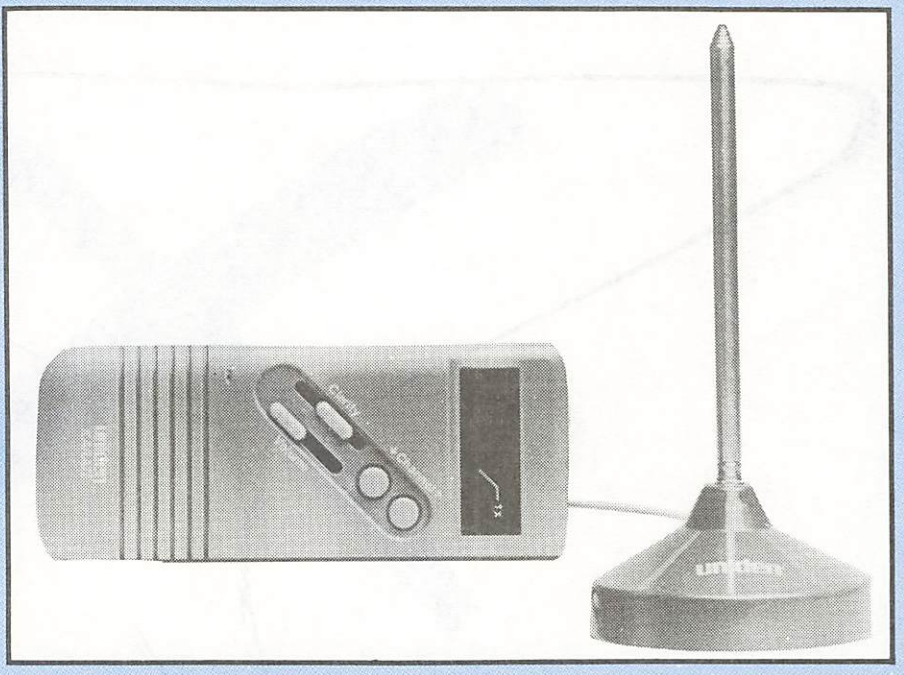
UNIDEN KARATE

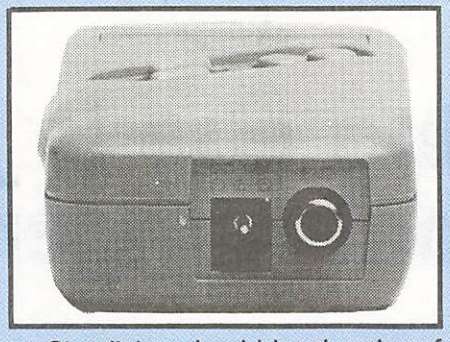
27 MHz EMERGENCY RADIO

I feel a lot of sympathy for the people who have to name new products — sometimes it's just as hard to come up with a catchy title for an article, but "Karate"??? The only relationship between the name and the product would seem to be that you could really need one if you are about to get the chop.

All jokes aside, emergency radios make good sense, particularly for those souls who really are not into CB as a hobby, but would like the safety back-up of some form of communication when they are on the road — or anywhere else where they have access to a cigarette lighter plug. This aspect of the current range of emergency radios is disturbing — all the manufacturers assume that there will always be an adequate supply of 12V DC whenever you have to use their product, but according to the automobile club's emergency road service crews, they get more call-outs for dead batteries than anything else. I can understand the manufacturers desire to reduce the size of their product, but the interests of the end-user could be better served if they incorporated a battery back-up power supply. But, you do have the alternative of buying a fully fledged hand-held if you have any qualms.

However, after all that, these little rigs are designed for a specific purpose and they do have a place in the overall scheme of things. They keep getting smaller and smaller, and better looking all the time. I can't help thinking that the Karate was designed for the lady of the house — the outer case is a subdued grey, with the controls in equally subdued blue, pink and a lighter grey. The shape of the unit is also quite different from what we have been used to in the past. All compound curves designed to fit neatly in the hand — even the controls are free of protrusions and sharp corners.





Simplicity, should be the aim of any CB radio designed for users who will only pull it out of it's case on the odd occasion. The number of controls have been kept to a minimum — five in all. Channel changing is accomplished electronically by two buttons in the top right of the slanted recessed section on the front of the Karate — one button takes you up, the other down. There is no on/off switch as such — simply plug the unit into the cigarette lighter receptacle and it powers up, automatically selecting channel nine. There is a sliding volume contol on the lower left end of the recessed section.

Above the sliding volume control is a similar device labelled "Clarity", which is a new way of describing a squelch control. I guess it all depends on your definition of clarity, but I can't help but feel that it is a bit of a misnomer. Still, if you are new to CB, or you have an emergency, what the heck. . . The microphone is built in, and it's described as "professional quality". I didn't open the case to have a look, but the only microphone aperture which I could see is a tiny hole - about 1mm in diameter — just below the recessed section housing the controls, which says a lot for the current level of microphone technology.

The push-to-talk switch is a bar located on the left side of the case, while the channel read-out is a large LED, with a TX indicator light incorporated in the same panel above the controls. Both the power and antenna sockets are located on the

Antennas

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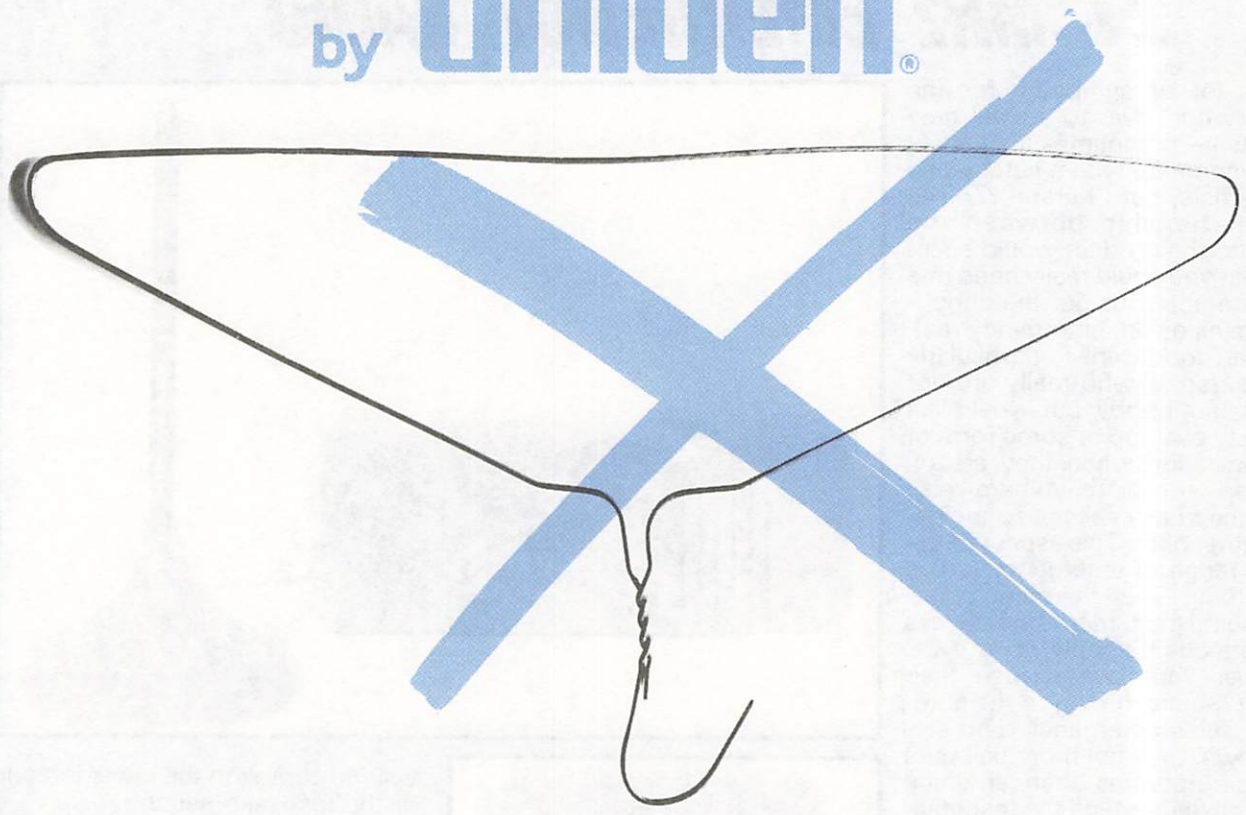

Anything else is just a coat hanger

All antennas may look the same, but all antennas don't perform the same. For assured maximum performance be sure to use only a genuine Uniden antenna. There is now a whole range of Uniden antennas custom manufactured in Australia to Uniden specifications to go with your Uniden.

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base of the casing. Power is supplied from the cigarette lighter socket via a fused cable set up for negative ground operation. If your car is wired for positive ground, you should devise some way of wiring the unit directly into your fuse box.

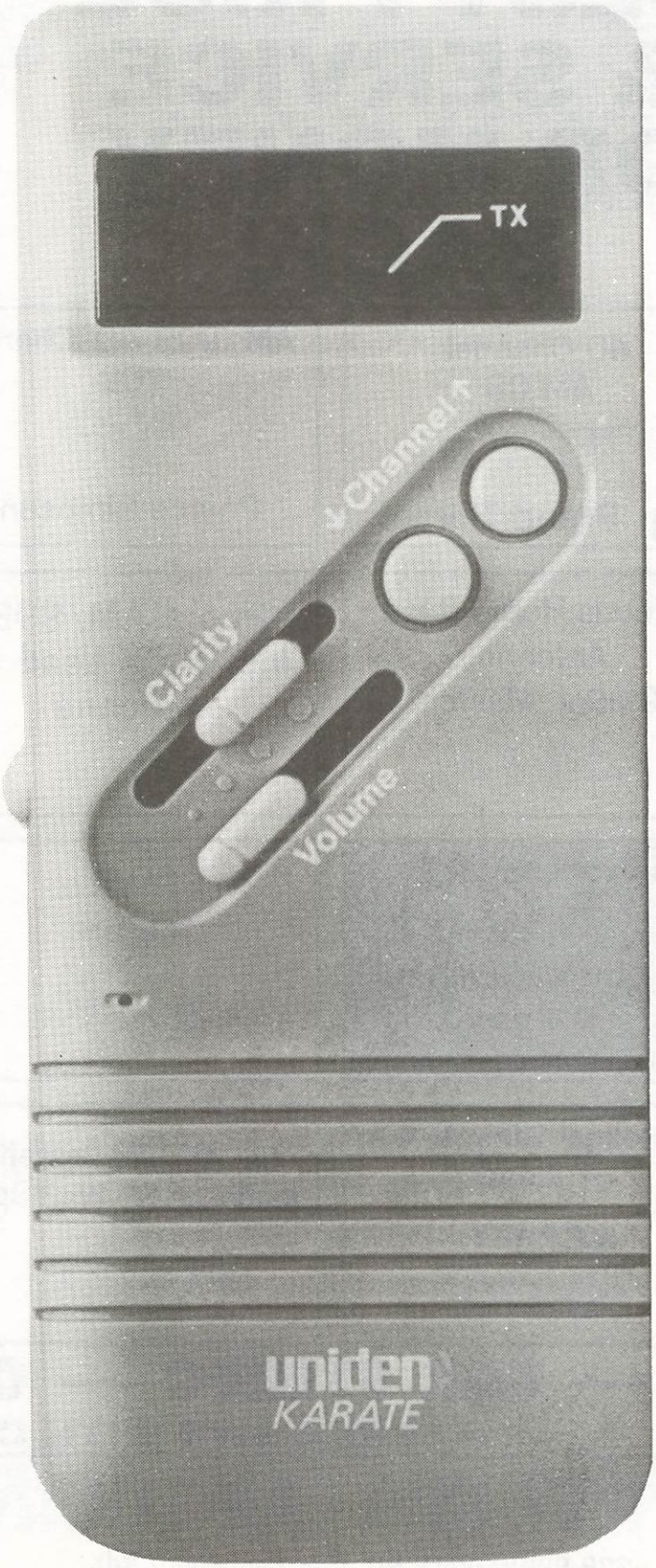
The antenna is a telescopic whip which screws into a powerful magnetic base. The co-ax is about half the thickness of regular co-ax, with a simple push in connector. The Karate, like other emergency rigs, can be used with a more sophisticated antenna if you desire, using a PL259 adaptor which can be purchased from most electronic outlets but, as the handbook warns, make sure that the non-standard antenna has been SWRd.

The whole kit and kaboodle packs away in a small soft vinyl carry case which would fit easily into a car glove compartment or console, ready for use when the time came.

The instruction folder is basic, but it tells you all you need to know for emergency operation, and has a simple explanation of the rules regarding the emergency channel — with a warning that prior to using the transmitter the operator should have read and understands the DOC rules and regulations. An admirable sentiment but, chance would be a fine thing.

Santronics, who distribute the Karate offer a two year warranty on the unit subject to the usual terms and conditions. There is no tech report regarding this unit, as our tech took some well earned time off to take in the delights of our sunny north. However, I did try the Karate on air, and considering its simplicity and size it performed well. Transmitted audio was reported as clear, and the recovered audio was likewise. One handed operation is simple and a complete novice had no problems understanding the operation procedure — apart from the usual nervousness about "talking into one of those things." It's a pity that a few of the bucket mouths on the call channel didn't suffer from the same affliction. . .

Thanks to John Cullen of Timeplus in Sydney Road, Brunswick for supplying the Karate for our test.



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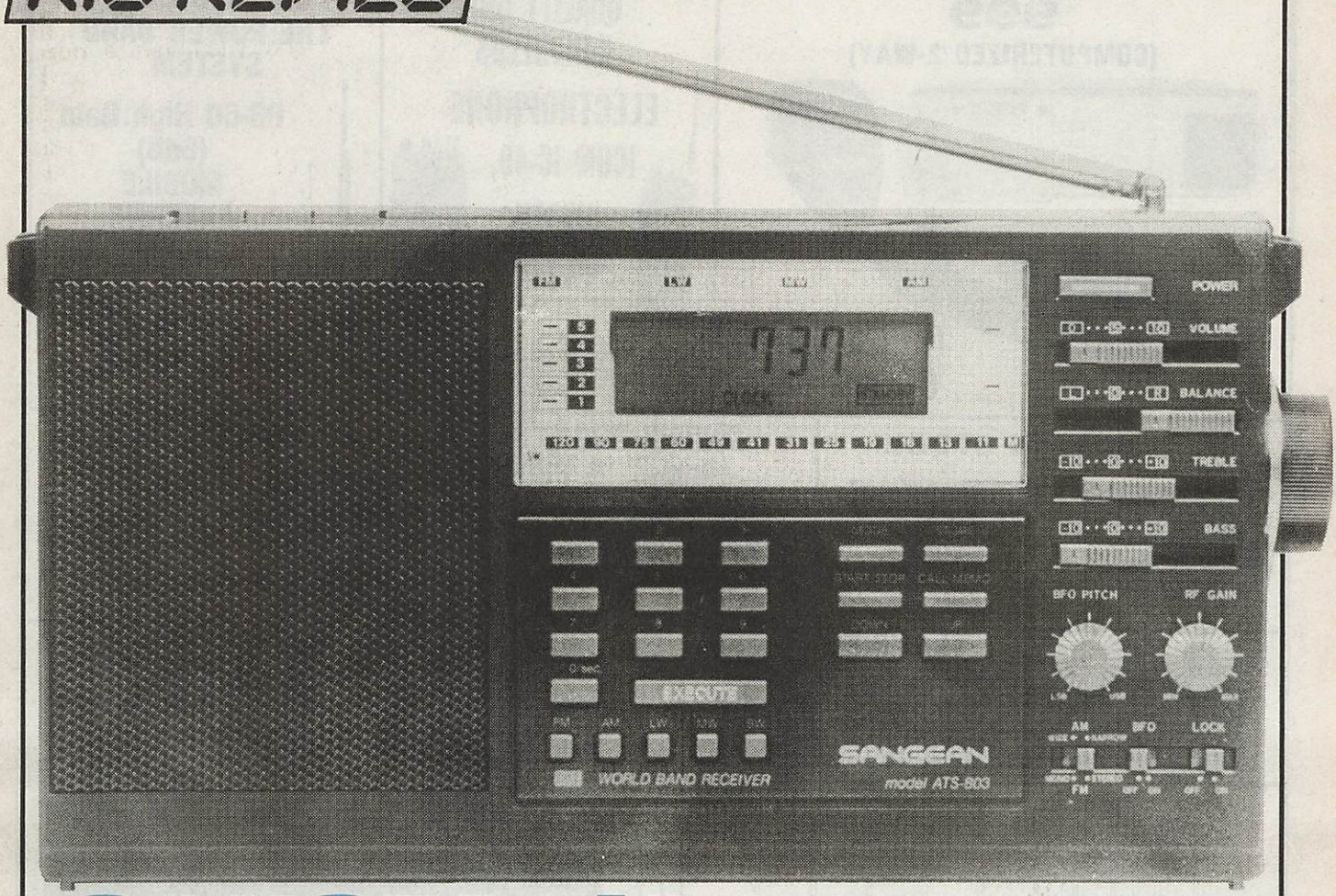
RIG REVIEW



SANGEAN'S ATS-803

LOW COST LISTENING

I'd like a dollar for every CBer and/or ham radio enthusiast who first became interested in the hobby of radio because of some sort of contact with Short Wave Listening.

The problem these days is that the South Pacific peso, although doing better against the American dollar, is still fighting a losing battle with the Japanese yen. This means that the prices we pay for our "black boxes" have sky-rocketed over the past decade, and getting a good general coverage communications receiver will tend to break the bank. Prices for the top-line JRC, Kenwood and Yaesu receivers fall somewhere between $1300 and $2300, and while scanners can be got at somewhat lower prices, they do not cover the lower frequencies where a mass of worldwide transmissions can be heard.

The Sangean ATS-803 is aimed at the SWLer who not only wants to sandbag on these lower frequencies, but would like to have the convenience of an inbuilt FM stereo radio and a clock radio all in the one package — and a very portable package at that — for a very small outlay. The Sangean box of tricks will set you back a mere $399 or thereabouts, and here's what you get for your hard-earned cash.

The unit is described by the manufacturers as a "World Band Receiver", and offers continuous frequency coverage from 150 kHz through to 29.999 MHz on AM, CW and SSB — yes, you read it correctly, SSB. In addition, you can tune to the commercial FM stereo band between 87.5 MHz and 108 mHz, and the AST-803 has provision for stereo headphones, plus separate bass and treble controls

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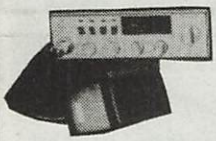

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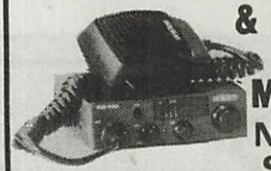

PHILIPS FM620

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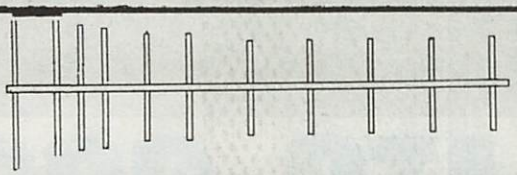

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The PB-900 is rated at 9dBi gain, and outperforms other antennas claiming gain figures up to 16dB.

The PB-900 is BUILT TO LAST — it has a life expectancy of around 20 years.

The antenna is hermetically sealed in an elasticised polymer, which not only keeps moisture out, it also prevents the built-in velocity compensated elements from moving.

The outer covering of the radome is specially engineered fibreglass — not "off the shelf" fishing rod blanks — for improved aerodynamic stability, and minimal stress on the internal components.

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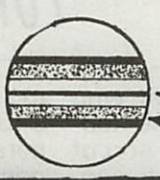
CUT-AWAY VIEW OF PB-900



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RIG REVIEW

SANGEAN'S ATS-803

for your listening pleasure. Naturally, with the continuous frequency coverage below 30 mHz, the regular AM radio stations can be heard — but not in stereo.

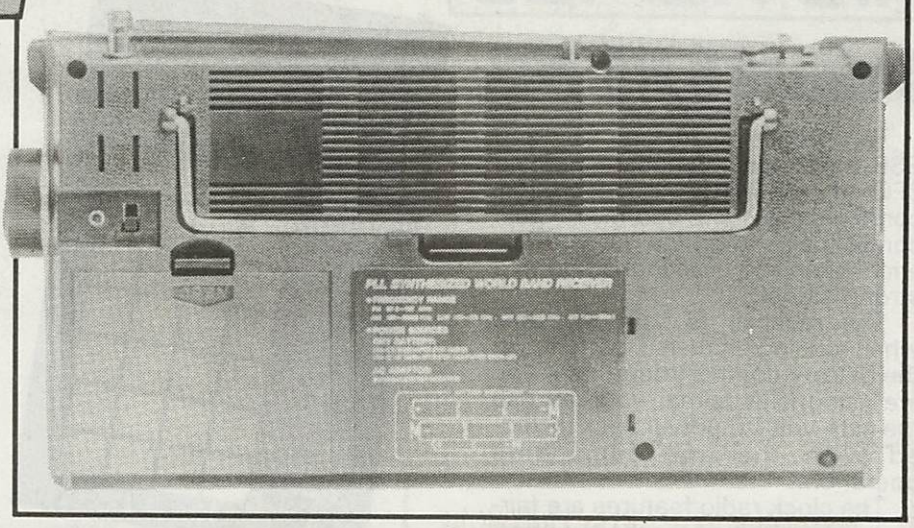
The clock radio function includes a programmable sleep timer and a LCD quartz clock display. This display panel also does duty as a function and frequency indicator when you are using the unit for SWLing.

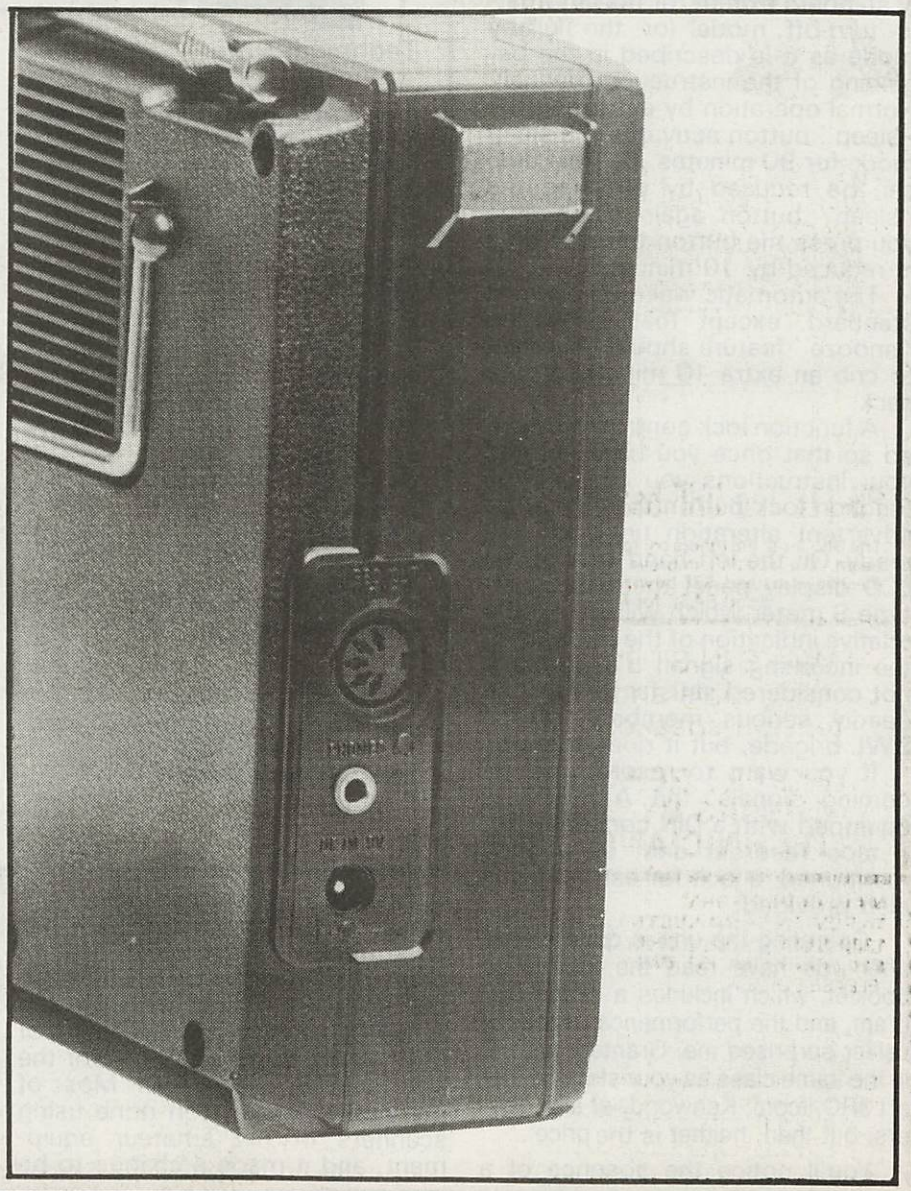
In fact the receiver looks for all the would like a rather large "ordinary" transistor radio, and it's not until you have a good look at the number and nature of the controls on the front panel that reality sneaks up and grabs you by the ears and begs you to look again.

I've already pointed out some of the features of the AST-803, and now it's time to get down to the fine detail. Sangean has gone to a great deal of trouble to make the unit as versatile as possible, while keeping it fairly straightforward as far as operation is concerned.

The makers have incorporated a nine-channel memory for storing your most frequently listened to frequencies, and number of methods of tuning to a desired frequency. You can input the frequency by direct keyboard entry, or by selecting a particular band with the band selection keys and then using the automatic scan keys, or, if you prefer, the manual scan tuning controls. If none of these appeals to you, you can use the conventional rotary tuning knob on the right-hand side of the receiver.

To help you with your search through the spectrum covered by its receiver, Sangean has included a comprehensive listing of major worldwide broadcasting frequencies, a basic explanation of the best times and methods of listening in to them, plus a few tips on external antennas. The receiver has its own built-in ferrite rod antenna for long and medium wave reception and a telescopic antenna for FM reception. The telescopic antenna is also used for shortwave reception, but an external antenna would give much better results.





RIG REVIEW

SANGEAN'S ATS-803

To enable you to tune CW and SSB transmissions satisfactorily, a BFO (beat frequency oscillator) control is provided, and the RF gain control helps you tune out interference when you have locked on to a strong signal.

The receiver is truly portable when running on the six batteries in the battery compartment, or, if you are using it at home, you can use the nine-volt DC power pack included with the unit for mains operation.

The clock radio features are fairly standard except for the automatic turn-off mode (or the lullaby mode as it is described in the beginning of the instruction manual). Normal operation by activating the "sleep" button activates the sleep mode for 90 minutes, but this time can be reduced by pressing the "sleep" button again. Each time you press the button the play time is reduced by 10 minutes.

The automatic wake-up alarm is standard, except that it has no "snooze" feature should you want to crib an extra 10 minutes in the sack.

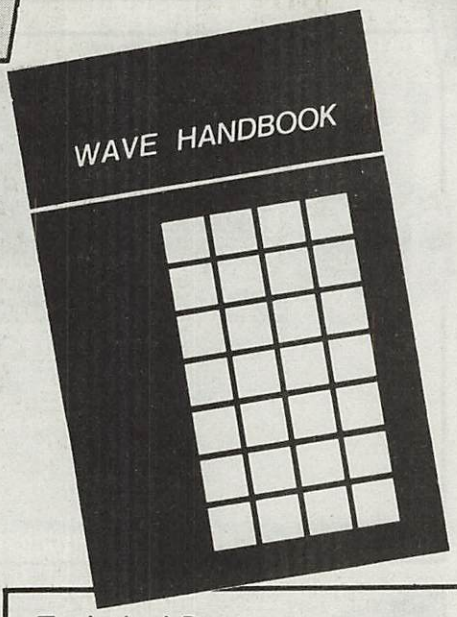
A function lock control is provided so that once you have entered your instructions you can set the function lock button to prevent inadvertent alteration until you are ready. On the left-hand side of the LCD display panel there is a bar-type S meter which will give you a relative indication of the strength of the incoming signal. It's probably not considered satisfactory by the deadly serious members of the SWL brigade, but it does the job.

If you want to record your incoming signals, the ATS-803 is equipped with a DIN connector for a tape recorder and, as already mentioned, a jack for earphones is also provided.

Operating the unit is quite simple after you have read the instruction booklet, which includes a circuit diagram, and the performance of the receiver surprised me. Granted, it's not in the same class as your state-of-the-art JRC, Icom, Kenwood, *et al* receivers, but then, neither is the price . . .

You'll notice the absence of a technician's report on this unit, which is due to the fact that our tame tech took a much-needed break at the critical time, but, from the layman's point of view, the ATS-803 gave a good account of itself, and I enjoyed using it for the brief time it was on loan. Most of my listening has been done using scanners or my amateur equipment, and it made a change to be able to get away from purely local signals. This is the attraction of SWLing — it takes you out into the world and gives you a chance to listen to straight-from-the-source news, fascinating foreign languages, exotic music and the views of people from other races. You can also tune to the amateur radio bands, space communications and air-distress frequencies not available on your scanner.

In short, I think I'm hooked — again.



Technical Data

Dual conversion superheterodyne receiver for the AM bands (LW, MW and SW)

Intermediate frequencies:
AM 1: 55845 kHz
AM 2: 450 kHz
FM: 10,7 MHz

Bandwidth:
AM 6,5 kHz
FM:

IF suppression:
AM: 50 dB
FM: 60 dB

Stereo channel separation:
FM: 25 dB

AM suppression:
FM: 30 dB

Tone control:
FM: ± 8 dB at 10 kHz
FM: ± 8 dB at 100 Hz

Output power:
1200 mW according to DIN

Distortion factor:
10%

Wave bands:
FM: 87,5 MHz to 108 MHz
AM: 150 kHz to 29999 kHz
LW: 150 kHz to 281 kHz
MW: 520 kHz to 1620 kHz
SW: Subdivided into 12 bands
120m band: 2300kHz to 2500kHz
90m band: 3200kHz to 3400kHz
75m band: 3900kHz to 4000 kHz
60m band: 4750kHz to 5060kHz
49m band: 5800kHz to 6200kHz
41m band: 7100kHz to 7500kHz
31m band: 9500kHz to 9900kHz
25m band: 11650kHz to 12050kHz
19m band: 15100kHz to 15600kHz
16m band: 17550kHz to 17900kHz
13m band: 21450kHz to 21850kHz
11m band: 25600kHz to 26100kHz

Antennas:
Ferrite antenna for LW/MW (150 to 1620 kHz)
Telescopic antenna for
SW (1620 to 26100 kHz)
FM (87.5 to 108 MHz)
Connector for external antenna for SW/FM

Connectors for:
9V DC power pack
Stereo earphones (3.5mm jack)
Tape recording (5-point DIN connector)
(Output: 1 mV at 1 kOhm)
External antenna (3.5mm banana plug)

Power supply:
1. 6 1.5 V batteries (IEC R20 or UM 1 or D or 9 V power pack (400 mA)) (Negative pole at center terminal)
2. 2 1.5 V batteries for the microprocessor (IEC R6 or UM 3 or AA)

Thanks to John Cullen of Timeplus in Melbourne for supplying the test rig at very short notice.

In defence of scanning

An eager scanning enthusiast, a Melbourne solicitor tells of his taking a handheld scanner on a recent visit to the U.S. West Coast.

After reading Robert Lopaka's story "Scanning Australia's Wonderland" in CB Action I decided to pack my Realistic PRO32 portable scanner for a trip to the United States which would include a visit to Disneyland.

In Hawaii the airport stay lengthened to ten hours because of engine trouble, so I tuned to the aircarft band and listened to what must be one of the busier U.S. airports.

The air traffic controller - a woman - was handling local inetr-island traffic as well as major international airlines and assorted military aircraft.

During two nights in San Francisco I tuned into the local police frequencies and found a clear division between the highway patrol communications and general police business.

The '10 code' was widely used, and offences were referred to by citing the California Criminal Code provisions - impossible to understand without an index to those provisions.

I heard many references to a 'stake-out' being in progress and the following day the newspapers were carrying stories about a major drug ring being smashed with large seizures of drugs and a number of arrests.

In San Francisco, like many large U.S. cities, it seems that there is seldom a time when the sound of an emergency vehicle siren or klaxon cannot be heard.

On the city streets there are many bizarre scenes due to drug abuse and alcohol and in part, apparently, to a policy of of de-institutionalizing the mentaly ill and substituting drug therapy or no treatment at all.

Civil rights activists championing the cause of those who wish to live in the streets claim that compulsory hospitalization or people is a denial of fundamental liberties.

In Los Angeles I located the frequencies used by the metropolitan police. A three 'bip' tone burst preceded some transmissions suggesting that some form of selective calling system was in use, however, it may have been a form of 'voting' as used by taxi companies to give priority to a particular car.

While staying at the Anaheim Holiday Inn Hotel, near Disneyland, a police helicopter started to search the area immediately in view of my window.

I quickly scanned until I found the frequency being used by the helicopter and five police patrols involved in a search for the participants in the armed hold-up of a service station about a block away.

A few hours later it was on again and, from my hotel window, I could see police checking the car park and adjoining areas.

This time a travel group courier had been robbed and injured nearby.

I saw a man hiding from police in nearby bushes whom I later described to a police officer who said that he did not fit the description of the wanted man.

He suggested that the man had probably been one of the millions of illegal immigrants, many of them Mexican, who wished to avoid police detection but were of no interest since they were really the responsibility of immigration officials.

He said that even if he arrested an 'illegal' who was subsequently deported, he would be back over the border within twenty-four hours.

On a subsequent trip to the Mexican border I saw a man arrested after having climbed the fence to gain entry to the United States.

Our bus driver, who had been waiting for us, had seen a man crawl out of a drain and climb a fence in order to enter the U.S. without papers.

I decided not to purchase a Realistic PRO2004 in the States as the cost differential seemed to be insufficient, bearing in mind that I would have to change the power supply to 230 volts or use an out-board 12 volt supply.

The question of what guarantee might be available in Australia was unclear.

The U.S. model I looked at had had its range modified to exclude reception of cellular telephone traffic.

The salesman helpfully indicated that the frequency range could be modified if one removed a single diode from the circuit. He said that the closest diode to the position on the circuit board marked R14 should do the trick.

I am certainly glad that I took a scanner with me on my trip as it provided some insights into the United States.

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CB ACTION/ARGENT WORLDMAZE COMPETITION

WIN A BEAM ANTENNA!

This month's Wordmaze gives you the chance to win a three element 27MHz beam, courtesy of Argent Communications. The antenna comes form their range of quality Chirnside aerials, and is certain to give you base station the DX edge. It's also compact enough to take on your next DXpedition into the country.

Winning is easy — we've hidden 10 words in the maze, all of which any DX enthusiast would be familiar with. They can run in any direction — horizontally, vertically, diagonally or even back-to-front.

To get you in the mood, the word ARGENT is printed in bold type, although this is not a part of the solution.

Simply find the ten words hidden in the maze, and post your entry to:

CB ACTION/ARGENT WORDMAZE
GPO BOX 628E
MELBOURNE VIC 3001

The closing date is 22 July, 1988 and the winner will be selected from all correct entries received by that date. The draw will be conducted in the offices of CB Action and the results and solution will be published in the next issue of CBA. The winner will be notified by mail.

1.....2 words (3,4)
2.....(10)
3.....(4)
4.....(4)
5.....(7)
6.....initials (3)
7.....(11)
8.....(4)
9.....(7)
10.....(10)

LAST WORDMAZE WINNER

Congratulations to the winner of the last competition: Mr C. Bell of Geelong, Victoria.

The correct answers to the clues were: 1. Rubber duckie; 2 Ground plane; 3. Quarter wave; 4. Isopole; 5. Long wire; 6. Rhombic; 7. Dipole; 8. Whip; 9. Inverted vee; 10. Beam.

By the time this issue goes on sale Mr Bell should be enjoying the fruits of his labors.

R	A	L	C	D	X	A	B	R	Q	E	I
O	S	G	T	E	N	S	R	O	C	S	O
B	P	R	O	P	A	G	A	**T**	I	O	N
S	U	E	G	S	M	A	**N**	A	L	D	O
D	K	C	Q	T	P	**E**	O	T	W	R	S
X	N	Y	O	S	**G**	M	V	O	T	A	P
N	L	B	W	**R**	L	R	J	R	H	I	H
S	I	J	**A**	A	Y	C	H	D	K	V	E
E	T	A	Y	A	V	Z	A	S	Q	D	R
O	B	K	G	E	P	E	V	R	T	N	E
N	O	I	T	I	D	E	P	X	D	J	F
I	L	A	Q	M	A	I	R	I	M	I	H

I would like to enter the CB ACTION/TIME-PLUS/HATADI WORDMAZE Competition. I agree to abide by the judges decision.

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.....
CALLSIGN (IF ANY) .....
TELEPHONE NUMBER.....
SIGNATURE .....

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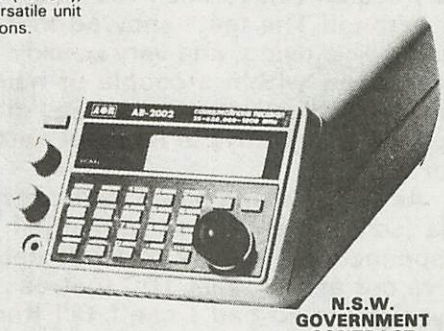

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The new KENWOOD Wideband Receiver is a multi-purpose receiver that covers the 500kHz-905mHz range. Its advanced features are made possible through the use of advanced microprocessor technology.

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Specifications: Frequency Range: 500kHz-905mHz Mode: A3(A3E) (AM). F3[F3E] (FM) Circuitry: AM, FM(N) = Triple conversion system FM(W) = Double conversion system Sensitivity: AM (S+N/N = 108dB) = Less than 5uV (BC band 10uV). FM(N) = 12dB SINAD less than 6uV (500kHz)-60mHz) less than 3uV (60-905mHz). Operating Temperature: -10°-+60°. Audio Output Power: 2W (at 8 ohms load 10% distortion). Current Drain: Less than 1A (audio power utput 1W). Atnenna Impedance: 50-300 ohms. Power Requirement: 13.8VDC +- 15%. Dimensions: 180(W) x 50(H) x 158(D) mm. Weight: 1.5kg.

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AUSTRALIA'S MOST POPULAR 40 CHANNEL GENERAL PURPOSE HAND HELD

DESIGNED SPECIALLY FOR AUSTRLAIA With features and specs better than most commercial grade transceivers. EMTRON-ACE covers the UHF CB band both simplex and duplex. It comes complete with nickel cadmium battery pack, belt clip wrist strap, flexible antenna — all standard at no extra cost.

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Freq range: 476.425 - 477.400 MHz UHF/CB
Freq control: Digital PLL synthesiser
Type of emission: 16F3
Antenna Impedance 50 ohms
Power supply: 8.4V - 15%
Operating temperature: - 10 to + 60°C

APPLICATIONS

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Queensland Scene

By ROD FEWSTER

The dreaded gremlins got at Queensland Scene in the last issue.

What started out as half a page of diabetes ended up as a couple of miserable paragraphs, thanks to that wonder of modern technology, the computer!!

Computers are supposed to make our lives easier and give us more leisure time. What they really do is make even the simplest task a complicated nightmare and stuff everything up so that we spend our days off trying to rectify the cockups.

GIGO,you say? Never heard of it!!

★ ★ ★

As I said last month, this doesn't have much to do with CB radio, but it has a lot to do with staying alive to use one. I'm writing it because if only one reader acts on my advice the effort will have been worthwhile.

There's a disease around which could be affecting as much as ten percent of the population . . . a disease which can kill you as surely as AIDS. It's not restricted to homosexuals, drug users, or any particular sector of the community. Anyone can get it. Even YOU!!

I'm talking about diabetes.

Even though I spent many years in the medical industry, I never really got to know much about diabetes, and herein lies the problem. Most people, and this includes many diabetics themselves and some doctors, don't realise how dangerous diabetes can be if left uncontrolled, or that the terrible side-effects of the disease can be minimised with early detection. (Notable side-effects are blindness, strokes, brain damage, thrombosis leading to amputation of the legs, just to name a few).

I know I've often described myself in CB Action as a little old five-foot dwarf or something similar, but in reality I've been a pretty tough cookie all my life . . . big, powerfully built, very strong and healthy, and not too many years ago in good enough shape to make Rambo look like a wimp. Got a bit overweight in the past couple of years, but who doesn't at my age? So what if I couldn't still go 15 rounds with Muhammad Ali . . . I could still have managed five or six without much problem.

A few weeks ago a series of blood tests revealed that I was diabetic. I'd been feeling a bit crook for a week or so, but with typical macho mentality I hadn't bothered too much about it. After all, I'd felt worse after a night on the turps, so I couldn't have been too sick, right?

Wrong!! The tests showed that I wasn't just sick. I was dying, and very quickly. I would have been dead within a couple of hours if I hadn't gotten medical attention when I did. (I ended up spending four days in hospital getting my blood sorted out).

As things stand now I have short-term amnesia (sometimes I can't remember things which happened only a few minutes before), my legs give out after I walk 100 metres or so, and my eyesight is so bad I can't tell Kermit the Frog from Dolly Parton on TV, let alone read a book.

My vision may improve with treatment. According to the experts, my eyesight will remain impaired, but hopefully not to the extent it is at present. Time will tell.

If they can get rid of the blood clots in my legs I may be able to walk around again without sitting down for a rest every few minutes.

The memory loss is something I'll probably have to put up with forever.

I'm on a strict diet. All the food I like is taboo, but I can eat tonnes of the things I hate most. Anyone fancy a stick of celery wrapped in a spinach leaf?

I have to test my blood every four hours, and inject myself twice a day with a total of 50 or so units of two different types of insulin. This could go on for the rest of my life, but at least I'm alive, even if I'm a wreck at the moment, and that's the point of this story.

Diabetes had been creeping up on me for three to six months before it hit me hard. If it had been detected earlier and controlled earlier I'd still have 20/20 vision, I wouldn't have gone weak in the legs, my memory would be intact, and I'd probably have been able to control the disease with a couple of pills a day instead of becoming a human pin-cushion.

If you've haven't had a blood-glucose test within the last six months, go and have one now.

DO IT TODAY!! Tomorrow may be too late!!

★ ★ ★

Still on the subject of gremlins . . . according to the glitch in its ad in the last issue, South Pacific Radio has been manufacturing the SPR-27 vertical base station antenna since 1877.

Wonder if Marconi used one?

A couple of my old established North Queensland readers phoned me to comment on the story about Red "Brolga One" Richards which appeared in the last issue of CB Action . . . not about the content of the article, but to tell me why the information was mailed directly to CB Action rather than to me for inclusion in Queensland Scene.

I did mention Reg and his "pole-sittings' in my column last year. Not a gigantic article, I admit, but the best I could do with the limited facts at my disposal.

However, it seems because I didn't write two pages about Reg's efforts at that time, certain Good Buddies in the Townsville area began mumbling something to the effect that "It's no good sending anything to Rod Fewster because he won't print anything in Queensland Scene unless it's highly controversial" . . . culminating in the bypassing of Queensland Scene and the direct mailing of the latest story to CB Action.

This type of thing has been pissing me right off for years.

Without reader input, how the hell am I supposed to know what's taking place thousands of kilometres away? Or even in the next suburb, for that matter?

I'm not a bloody mind-reader!!

Mailing a full set of facts together with newspaper clippings about Reg's activities directly to CB Action is okay by me . . . it saved me a lot of work . . . but creating the impression that this was done because I wouldn't have printed the story in Queensland Scene just makes me feel like having a bloody good chunder.

★ ★ ★

Some years ago I was roasted by a prominent member of an emergency monitoring organisation for failing to give the group's social activities a write-up after he had sent me a lengthy account of the goings-on. In that instance I had actually included the item in Queensland Scene (must have been a bit short of news that month) but the editor of the day decided that it fell into the "codswallop" category and deleted it before the magazine went to press. The deletion had nothing at all to do with me, but I've been the world's worst bastard ever since.

Even if you do send me information for a story, there's no guarantee that it will be printed. Apart from the fact that I'm very selective about what goes into Queensland Scene, the column is also subject to further editing and pruning even after it leaves my computer.

The moral of this story . . . kindly refrain from sending me DRIVEL!! The fact that Marsha the Psychedelic Dildo had an eyeball with you in the back of your panel van at the local pub car park may be big news to you, but Queensland Scene readers in Tasmania (both of them) couldn't care a rat's bum about it and certainly don't want to read about it in my column.

Also . . . there's no point in phoning on a Friday afternoon to tell me that your local branch of the Wombat Wireless Club will be holding a wankathon to raise money for the homeless lame and lazy over the weekend!! I need WEEKS of notice if you want advance publicity for your activities . . . not just a couple of days.

So, there you have it. Rod Fewster's Guide To Becoming A Queensland Scene Contributor And Avoiding The Pitfalls Of Good Buddyism.

★ ★ ★

First us . . . then the Poms . . . now the Kiwis.

By the time you read this, New Zealand CBers will be celebrating the introduction of their new 40-channel CB allocation. Complete with SSB even!!

Unfortunately, like us and the poor old Pommies before them, the Kiwis will initially be out of step with the rest of the world.

It didn't take Australia long to get rid of the original 18-channel allocation, and now British CBers can also use the standard American 40 as well as their 27 MHz FM service.

I wonder how long it will take the NZPO to wake up?

★ ★ ★

Any items of interest can be forwarded to: Queensland Scene, c/- PO Box 29, Kallangur, Qld, 4503.

DOES YOUR RADIO NEED A HEARING AID?

Then this UHF CB-RF PRE-AMP is your answer.

The PRE-AMP is connected between the antenna and the radio. It may also be connected directly under the antenna. With a maximum gain of up to 15dB the PRE-AMP will give you an excellent receive amplification. Full instructions and literature is supplied with each unit purchased.
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★ L&C matching . . . no ground plane required.
★ 5/8 wave over 5/8 wave collinear design . . . 6dB gain.
★ Individually performance-tuned and tested.
★ Complete with fold-down base, gutter-mount, and cable.
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Try an M-6 for 14 days. If it doesn't out-perform the UHF mobile antenna you're using now, return it to us undamaged and we'll give you your money back!!

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STARDUSTER-3 (THREE-ELEMENT YAGI BEAM) **$99.00**
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Starduster beams are lightweight but strong . . . designed to withstand a hurricane.

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Dxers . . . Get the best of both worlds with horizontal and vertical polarities.

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SPR-27 ("THREE-QUARTER WAVE" VERTICAL) **$59.00**
The ONLY base station antenna ever rated "TEN-OUT-OF-TEN" by CB Action.

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ADD $10 FOR FREIGHT..... RIGHT TO YOUR DOOR..... ANYWHERE IN AUSTRALIA

WE CARRY AN EXTENSIVE RANGE OF CB RADIOS (AM — SSB — UHF — MARINE) AT VERY COMPETITIVE PRICES

REPAIRS AND TUNE-UPS . . . WE'RE THE BEST!!!!
No "fixed price" repairs — you only pay for the work we do!!!!

THE ESG QUEENSLAND FREQUENCY REGISTER COVERS THE LOT ..... **35 MHz-520 MHz**
A MUST FOR SERIOUS SCANNER ENTHUSIASTS ..... **$25.00 ($3.00 P&P)**

SSB ENGINEERING . . VOLUME 1 covers crystal switching methods, synthesized rigs, and early PLL rigs. The mountain of slide information makes this book a classic. Price $15 including postage.

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SSB ENGINEERING . . VOLUME 3 covers the latest PLL ICs, has a ham radio modification section and an AM-to-FM CB conversion section. Price $15 including postage.

THE CB PLL DATA BOOK is the CB modifier's Bible. This all-new International Edition covers over fifty specific phase-locked loop ICs, with manufacturers' cross-references. Price $12.50 including postage.

THE SCREWDRIVER EXPERT'S GUIDE will enable the average non-technical CBer to locate and repair up to 95% of CB radio problems, as well as helping the advanced hobbyist to tune and modify his equipment for improved performance. Price $12.50 including postage.

THE CB MODIFICATION HANDBOOK covers Australia's most common CB radios. Everything from a few extra channels to full-house conversions covering hundreds of channels, 5 kHz steps, increasing power, slides etc. Price $12.50 including postage.

THE LINEAR AMPLIFIER HANDBOOK has thirteen complete transistor amplifier plans, HF, VHF AND UHF, from 15 watts to 1000 watts. full parts lists, component layouts, and full-scale printed circuit negatives take the mystery out of building your own CB or ham linear, $8 including postage.

CB ANTENNA CONSTRUCTION. Illustrated plans for quarter-wave and half-wave ground-planes, two-element quad, three-element beam, and high-performance stacked beams. Price $2 including postage.

HAM AND CB ANTENNA DIMENSIONS 130 charts covering dipoles, beams, quads, vees, triangles, end verticals. An essential reference work for any serious antenna builder, this book covers the CB band, HF bands from 160 metres to 10 metres, and the 2 and 6 metre bands. Price $10 including postage.

MAIL ENQUIRIES . . . Please include a stamped self-addressed envelope.

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SCANTENNA-XLR . . . THE ULTIMATE SCANNER ANTENNA

The Scantenna-XLR wideband discone antenna covers 25-1300 MHz and is ideal for use with all scanners, including the Icom IC-R7000, the Realistic PRO-2004, the AOR-200, and similar "super-scanners".

Check out the specifications . . .

★ 100% Australian designed and manufactured from top-quality Australian raw materials.
★ Precision-machined aluminium disc/cone head assembly.
★ 16 lightweight tubular aluminium discone elements.
★ Stainless steel vertical element.
★ Weatherproof low-loss N-type coaxial connector.

(Test Report in September 1987 CB Action)

The eyes of the world will be watching Brisbane during World Expo 88.

Brisbane television station TVO has installed a multi-million-dollar newsroom . . . the most modern newsroom in Australia, complete with the very latest in sophisticated high-tech electronics . . . inside the Queensland Pavilion on the Expo site.

TVO has been using SPR Scantenna-2s at the Mount Coot-tha studios for some time, and we're proud to say that once again TVO has decided to install SPR scanning antennas, this time our Scantenna-XLRs to monitor the action from the Expo newsroom.

Why did TVO choose Scantenna-XLRs for use in such a state-of-the-art environment rather than one of the more expensive imported antennas?

Because the Scantenna-XLR performs at least as well as any comparable antenna on the market and better than most, no matter how much they cost . . . and the Scantenna-XLR is 100% Australian!!

If you're not using a Scantenna-XLR . . . you're not getting the most out of your scanner!!

Price . . . $145 ($10 freight anywhere in Australia)

SPR-27 BASE VERTICAL ANTENNA

The SPR-27 vertical base station antenna is a half-wave radiator of the type commonly referred to as a "three-quarter-wave" antenna.

We could call it the "original" SPR-27.

After all, we began manufacturing the SPR-27 way back in 1977 . . . long before any of the "original" (or so the ads claim) "three-quarter-wave" antennas appeared on the scene.

We prefer to call it the "genuine" SPR-27.

Why?

Because the SPR-27 is the ONLY base station antenna EVER to be given a rating of "TEN-OUT-OF-TEN" by CB Action. (Test Report in the December 1983 issue).

The "TEN-OUT-OF-TEN" rating applies ONLY to the "genuine" South Pacific Radio SPR-27 . . . it does NOT apply to "original" look-alike antennas.

So, to avoid confusion, we'll sit back and let anyone who wishes to do so call their "three-quarter-wave" verticals "original" . . . and we'll continue to call our SPR-27 "genuine".

Price . . . $59 ($10 freight anywhere in Australia)

SOUTH PACIFIC RADIO

6 SYLVAN COURT
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PHONE (07) 204 5000

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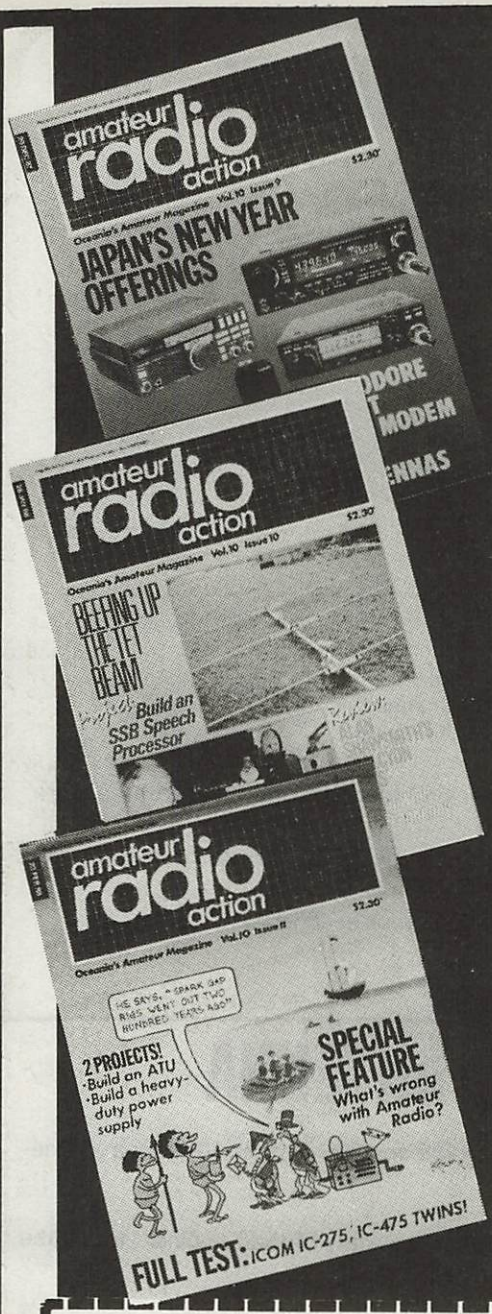
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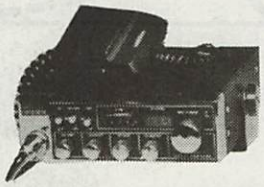

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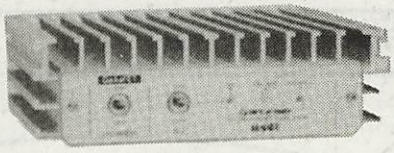

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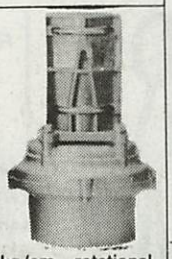

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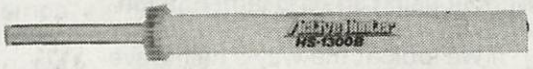

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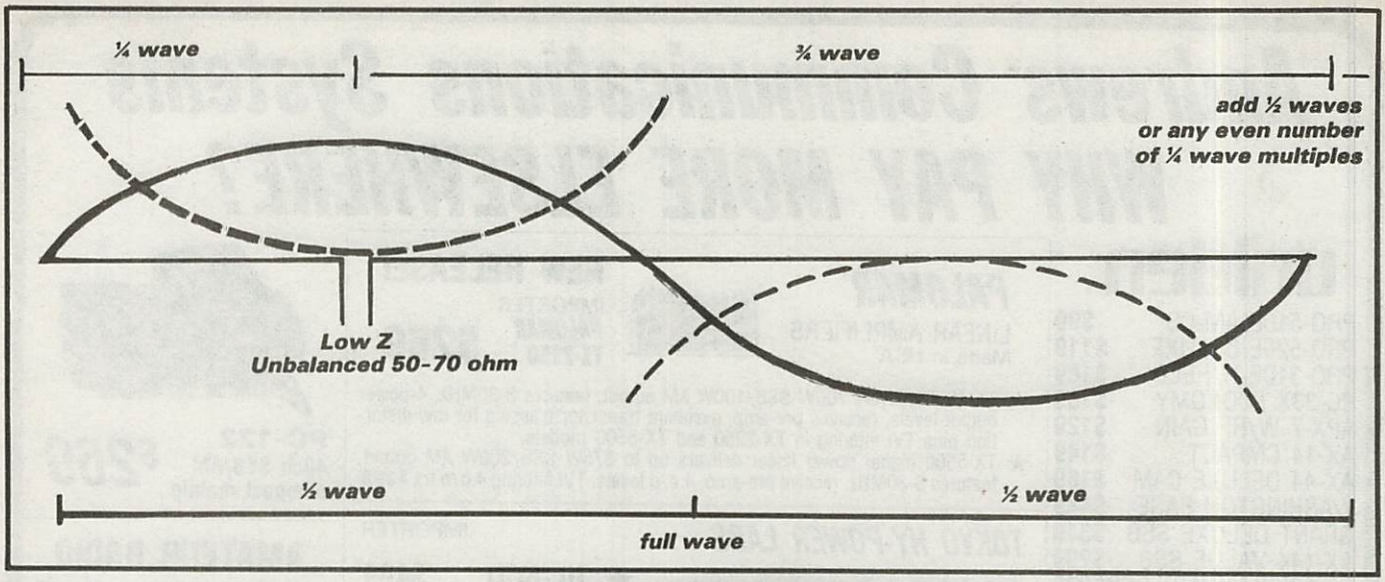
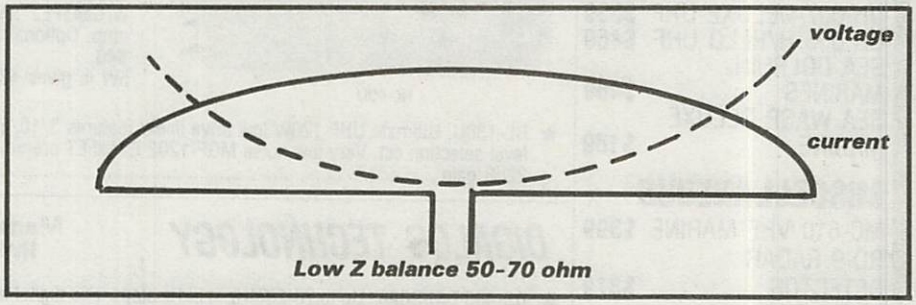


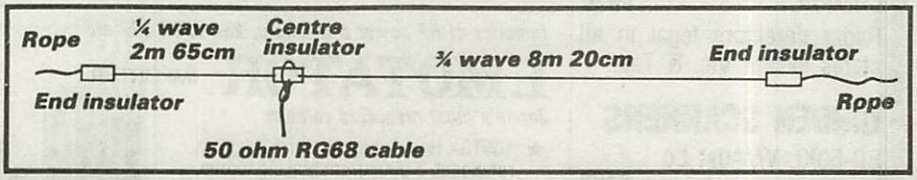
¼ WAVE FED LONG WIRE

FEEDING 27MHz LONGWIRE ANTENNAS

By Ian Reynolds, TAJ176



½ Wave Dipole



Dimensions for 50 ohm long wire. The short section is always 2m 65cm

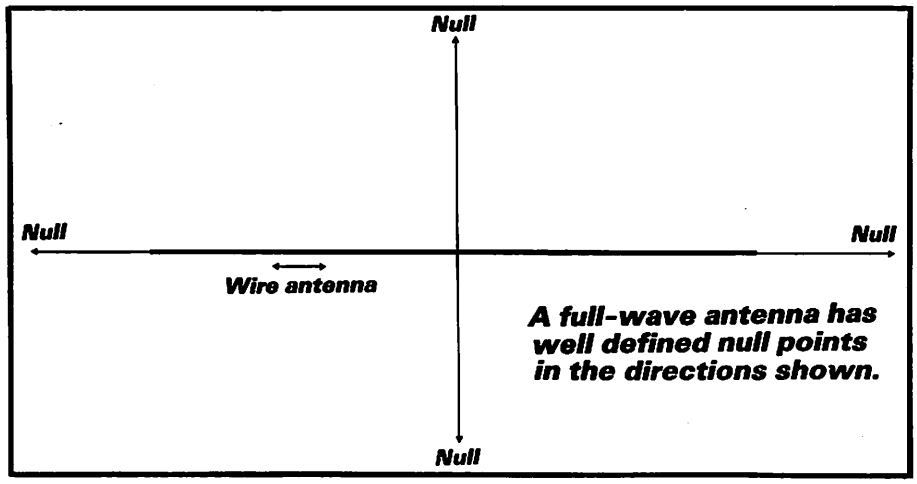
Long section: Full wave (above) 8m 20cm
1½ wave 13m 75cm
2 wave 19m 30cm

Long wires have many advantages over vertical antennas, some being low cost, ease of construction, and in some locations a lower noise level. As seen in Ken Reynolds article, end fed long wires need a matching device, which can be a disadvantage to inexperienced constructors, but there is another way of achieving the same results without using an ATU (antenna tuning unit).

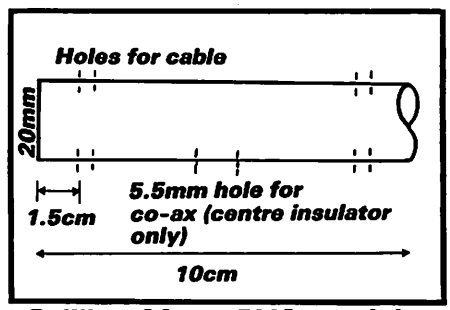
If we look at the way a half-wave dipole is fed, we see that the feed point is at the low impedance point of the antenna. If we then add another dipole to one end of an existing dipole, the low impedance point doesn't change on the first dipole. The reasons for this are too complex to go into in this short article, but for those wishing to learn more about the subject, I suggest you refer to the ARRL Antenna Handbook.

A dipole, however, is a balanced antenna, and to be fed from co-ax cable, which is unbalanced, the use of a balancing transformer, called a balun, is required. But, by adding another half-wave to one end of our first dipole, the system becomes unbalanced, and it is then possible to feed the antenna directly. Confused? Don't worry about it, it works!

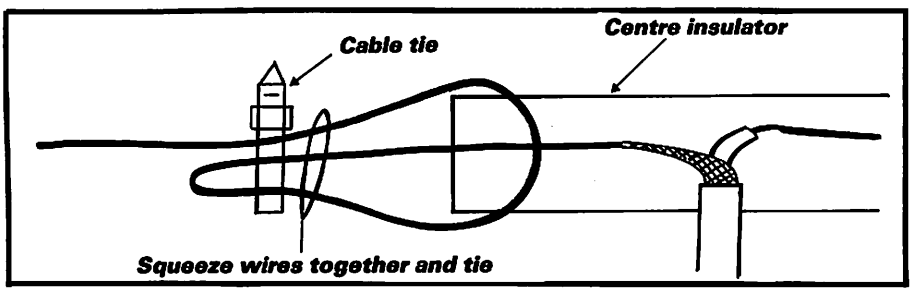
Construction of these antennas is simple. You will need three insulators, one for each end and one for the feed point. I used PVC conduit for mine, 20mm diameter and 10cm long, with holes drilled right through at each end of a suitable size for the wire used, about



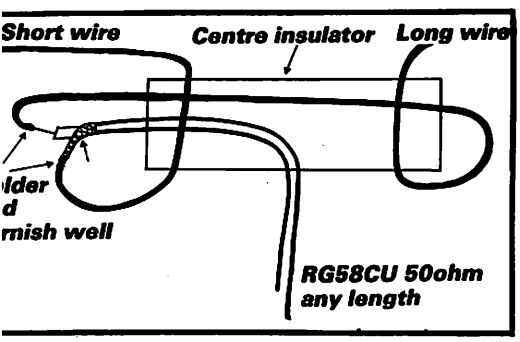
A full-wave antenna has well defined null points in the directions shown.



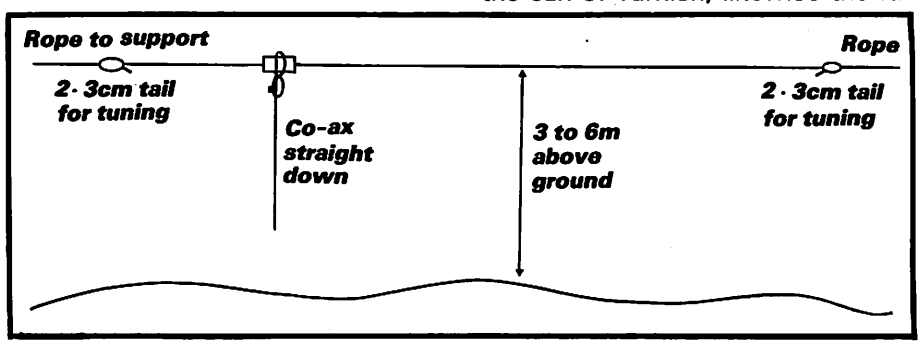
Drilling 20mm PVC conduit for centre insulator



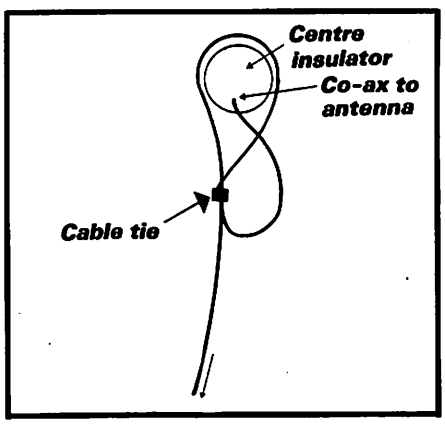
Attaching antenna wire to centre insulator.



Joining co-ax to antenna wires.



Full-wave-length antennas cut accurately are 1:1 on ch.1



How to loop co-ax around centre insulator.

1.5cm in from the ends, and one extra hole in the centre of the feed point insulator for the co-ax cable to pass through. A better way to do it is to use proper egg insulators for the ends, the type used for electric fences being suitable.

The type of wire used is up to you, but as a minimum I suggest 2.5mm stranded house wiring cable for up to two wave-lengths, and 4mm for anything bigger. Any thinner than this will tend to stretch too much and cause tuning problems. Before cutting the cable to length, attach one end to a firm support, unroll it, and pull. This will stretch the cable, and harden it a little. Then cut the cable to length, exactly! Not a little more just in case, but spot on. Do this, and your antenna will work first time.

The short end of your long wire is always 2.65m, irrespective of how long the other end is. The long end is always an even number of quarter-wavelengths.

The dimensions of the one wavelength version are: 2.65 metres for the short end, and 8.2 metres for the long end. Extra half-wave sections can be added on, each of these being 5.55 metres in length. See the table for total wire lengths.

Joining the co-ax to the antenna can be a bit fiddly, but the illustrations show you how. When soldering the joints, make sure that you have no short-circuits. Plastic sleeving placed over the joints is recommended, as is a good coating of urethane varnish. With my antennas I dip the whole joint, including the end of the co-ax, into the can of varnish, likewise the far ends of the wires. This practice helps to keep the water out.

If you can't solder, use two connectors from one of those plastic terminal strips, or crimp connectors as used in automotive electrics. As long as the joints are secure and well varnished, it will work.

When making these joints, keep the length of the exposed co-ax as short as possible. A 2cm "tail" on your co-ax will add the same length to the total of your antenna wire.

When your antenna is assembled, try to erect it as far away from large objects as possible, and at least a quarter-wave above ground. A height of around three to six metres is ideal. Refer to Ken's article for radiation patterns for the different wavelengths, point it in the desired direction, and have fun!

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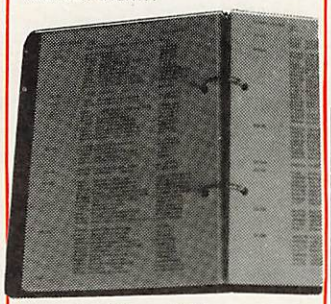

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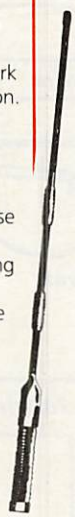

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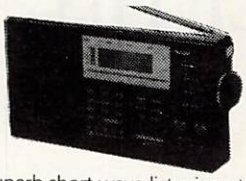

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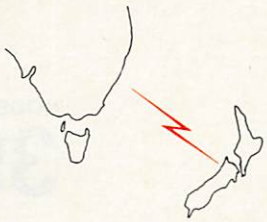

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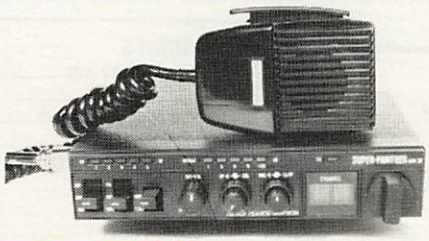

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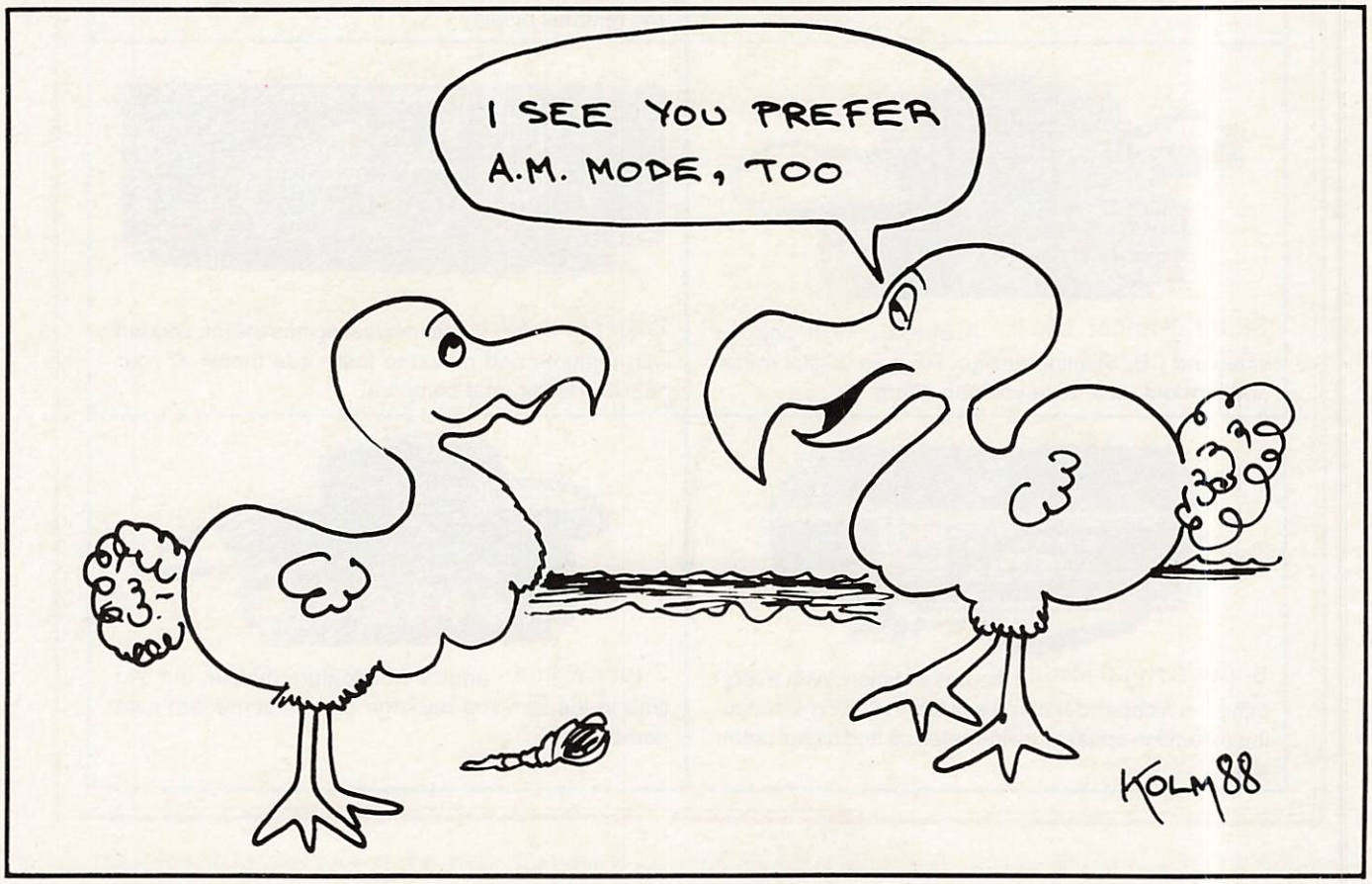

MOBILENET

TELEPHONES HOT TO TROT

BY DAVID FLYNN

They've been on TV, splashed in newspapers and magazines, trumpeted on radio and proudly displayed in almost every communications store. Dick Smith will even sell you a plastic 'phoney' version, to impress the neighbours with.

If you live in or near any major city, there's little chance you won't have read about the new cellular telephones, under Telecom's catchy tag of 'Mobilenet'. Unless you're a hermit in a cave (in which case, what on earth are you doing with a CB magazine?).

There's no mistaking that cellular radio-telephone — the high-technology car-phones of the future — are here.

Did I say 'car-phones'? Let me correct that. Cellular radio is not just about a mobile telephone. It is about portable units you carry in the field. A telephone in an executive briefcase. A hand-held unit no larger than your average UHF walkie-talkie. All with direct access to local, STD and overseas calls, and with more features than the mobile telephones of today.

The famous 'shoe-phone' of Max Smart, Agent 86 is not yet with us, but it can't be too far off. There is almost nothing that cellular technology cannot conquer, or cannot adapt to.

It is easy to run out of superlatives when discussing cellular. Compare it to Telecom's previous 500MHz Mobile Telephone Service (MTS).

Cellular is more advanced. It has greater capacity — over ten times that of the current system. It is more versatile. The equipment offers more variety. It is barely half the cost of the initial MTS, when introduced in 1981.

In fact, the technology of cellular radio has the potential to make both conventional home telephone systems and mobile two-way radio, things of the past.

So, just what is cellular radio?

Cellular concepts

Cellular is simply a better mousetrap.

Conventional radio theory has always been that you put up a transmitter at the base station, and whack a radio in the mobile unit. Unless the mobile moves out of range of the base station, you've got contact.

The problem is that each frequency can only be used once in any area. This is the limiting factor of Telecom's current MTS.

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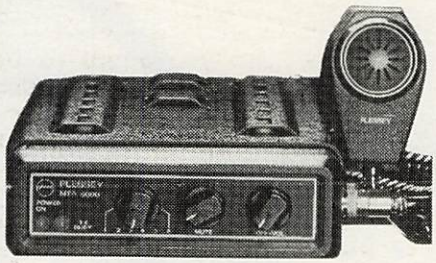

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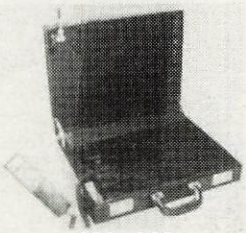

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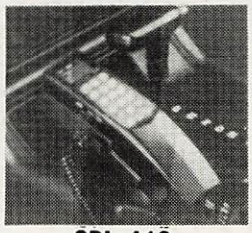

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The cellular approach is to divide the area to be covered into a number of smaller regions, each serviced by their own transmitter. The regions are called 'cells'.

Each cell covers a small range of the total number of channels available. It overlaps with a number of other cells around it, each of which cover another set of channels. A total of seven adjacent cells occupy the entire band available to the service. The group of seven is termed a 'cluster'.

Throughout the service area, there are many clusters of cells, each covering both set of geographic area and occupying allocated channels.

The pattern of cells, and their restricted size, allow channels to be heavily re-used within the same service area. The users are of course in different cells (different clusters, in fact), and so there is no interference between them.

Each cell covers its defined area through careful location, and by controlling the level of radiated power. Cells can of course be any size at all — as a rule — the smaller they are, the more times a frequency can be re-used within the same city, and so the more users a system can support.

As the customer moves from one cell to another, computerised switching equipment shifts the telephone conversation across to the new cell, and onto a new channel. This procedure (known as 'handoff') is totally automatic, and incredibly fast — the whole process is measured in microseconds, and cannot be detected by the user.

The same technique is used, to a limited degree, in the current MTS. The key to cellular radio is its high capacity. And there is almost no limit to the capacity of cellular systems. They can be expanded and increased, simply by making the cells smaller, and adding new base stations.

This is all pretty overwhelming, unless you happen to be a customer of the current mobile telephone services — in which case, you're uppermost thought is likely to be 'What about my telephone?'.

Indeed, are you about to become the owner of a very expensive piece of moulded plastic and a hunk of circuitry which will soon be out of date?

No need to panic — the existing service will continue to operate in parallel with Mobilenet until at least 1990, to allow existing customers adequate time to plan for their changeover to cellular.

Clearly, Telecom's MTS — which was once the whizz-kid of Australian telecommunications — is no longer an only child. The new baby was worth the wait.

Out with the old . . .

Australia's first mobile telephone service was 'manually operated', in that the user had to rely on an operator for connection into the Telecom network. Other limiting factors included a small number of channels, often leading to lengthy delays in placing a call.

This was quickly superseded in 1981, when Telecom released their Public Automatic Mobile Telephone System (PAMTS), which offered direct dialling facility through modern digital exhanges.

PAMTS was adopted by the public with astounding speed. Even with the high cost — at first exceeding $6000 to buy one's own telephone — it grew beyond the prestige and executive markets which were the original targets of Telecom.

A new version of the telephone was released in 1985, with lower production costs and improvements in technology resulting in a unit that was smaller, cheaper, and more versatile. The price — an as-

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tounding $3300, for outright purchase.

The 'car phone' left the realm of the exec, and filtered down to the level of medium-sized organizations and small (especially one-man) businesses. Now known simply as the Mobile Telephone Service (MTS), the 180 channels available approached maximum capacity — a maximum of 5000 users in each service area, only a relatively small portion of which could be on-air at any one time.

Only four years after its introduction, the Sydney MTS was almost filled to capacity, and Melbourne was quickly following suit. Great for scanner buffs — plenty of chat to listen to, and even better than the local police channel on a Saturday night. But for subscribers, both current and potential, it was a hassle. Telecom were no less surprised at the rapid growth of the MTS than anyone else, but at least had been preparing for the eventual and inevitable step — after MTS, what next?

USA, Japan and Europe had already been faced with the same question, having experienced it all before. The answer was "cellular".

American communcations engineers had realised as early as the 1950s that the conventional radiotelephone system would one day be unable to meet the demand for services. But without the necessary computer technology, there was little to be done but bide time, and implement short-term measures to alleviate the problem.

Japan was the first country to adopt cellular as a viable commercial alternative to existing mobile telephone systems. From its 1980 debut in Tokyo,the 800 MHz NTT cellular network has expanded to most major provinces.

It was not until the mid-1980s that true cellular radio appeared in the USA. After experimental periods, licences were issued to a number of companies, who then set up cellular networks tied into the American phone system (which has a competitive free-market approach, compared to the monopolistic Australian situation).

The UK introduced their 'TACS' cellular radio network operating around 930 MHz, only last year, and the service is slowly spreading along the extensive English motorway system. As with Australia, the British telephone system is a monopoly, although the government decided to split cellular services between two operators — Cellnet and Vodafone.

Each of these companies provides equipment to the public, and under the terms of their licence must cover 90 percent of the country by 1990.

With similar speed, European countries began to examine cellular technologies, but had individual problems to consider. As the region comprises over a dozen nations, most of which are no larger than NSW (and quite a few of which are half the size of Tasmania), the people of Europe are very mobile indeed.

After all, a day's drive can easily take you across a couple of borders and through a handful of countries. This has led to a need for greater co-operation between each country when considering allocations for radio-communications, for everything from the European CB standard of 27 MHz FM through to cellular radio.

Four of the closest-allied nations have standardised their cellular radio systems. The 800 MHz 'Nordic Network' (as it is known) comprises Norway, Finland, Denmark and Sweden, and allows customers to travel from one country to another and still make use of their mobile telephones.

European authorities are now planning for a second-generation cellular system, using a standard frequency allocation and protocol for all countries.

Spurred on by the sudden availability of all the necessary elements for a cellular telephone system, many other countries around the world were quick to implement it and replace their outmoded mobile services.

By 1983, cellular systems were operative in Canada, Spain, Saudi Arabia, Hong Kong, Scandinavia and Singapore, some with 10,000 channels and capacity for 100,000 users.

Telecom, of course, had been watching the development of cellular with great interest, and began their planning for an Australian system in the early 1980s. The result is now with us. Mobilenet is here.

Telecom's new Cellular Mobile Telephone System (CMTS) has been given the name 'Mobilenet', and even at this early stage has broken new ground for the government-owned telecommunications company.

For a start, although Telecom remains the owner and operator of the network, private enterprise has been given approval to manufacture and supply cellular units — in competition with Telecom's own line of CMTS gear — direct to the public.

To the customer, this has meant the ability to choose from a wide range of equipment, from mobile units to portables. All the benefits of competitve marketing — different styles, features and of course prices — are available to the Mobilenet user.

There are also benefits available through Telecom's network programming which are not to be found on the existing mobile telephone service. Foremost among these are the customer-convenience features, a variety of facilities made possible through the CMTS digital computer-controlled exchanges.

Also marketed by Telecom as 'Easycall', these are normally available only to home users whose local exchange is of the digital AXE series.

These features include 'call diversion' (to another number if the Mobilenet phone is outside the service area or unattended), conference calls, 'call waiting' tones, 'call forward' options and others — functions normally only found in the modern office.

Sydney was the first city to experience Mobilenet, which commenced in February 1987. The network has since expanded to cover Melbourne, Brisbane, Adelaide, Hobart, Wollongong and the Gold Coast.

Before the year is out, the list will include Canberra, Perth and Newcastle, finally growing to a total of over 40 cities and regional areas within three years. Part of the Telecom plan is to link major centres along the principal highways of Australia, so that Mobilenet customers will be able to use their telephones over the entire length of the Hume, Pacific and Princes Highways in eastern Australia, for example.

When cellular radio made its debut in Sydney, the system came under such scrutiny, and was the focus of extensive media coverage. Let's look at the first step in Australia's cellular network.

Continued page 62

DELTA BASE COMMUNICATIONS

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OUT WEST

BY DON STEWART

Well, my return trip to Geraldton is now history and I must admit I am missing the place already. The temperature in Bunbury at this point in time (11am on 2 May) is 16 degrees — I would be looking for at least 24 degrees in Geraldton. I wouldn't mind moving there permanently, but tearing my wife away from her two grand-daughters in Bunbury is a task which would tax a combination of Samson and Solomon, so this puny scribe must adjust to the cold.

★ ★ ★

For those who don't follow the news — and I guess this would not have made headlines in the east — Good Queen Liz declared the town of Geraldton a city in April. Welcome to the "Big Time" fellers, but you will probably find that, like Bunbury, the title makes no difference and you still feel that you live in a sleepy outpost of society.

Before moving on to other things, I must comment upon a quaint custom among the residents of Geraldton. it seems that, about two years ago, someone told somebody that putting a bottle of water on the lawn was a good way to stop dogs leaving their calling cards — the premise being that a dog will not foul a watering place. Because of the almost innumerable stray dogs roaming free at the time, this 'Old wives tale' found fertile ground and now the city looks like a huge bottle dump. No matter that the the original idea called for clear plastic two-litre soft drink bottles, anything will do, any size or shape in glass, clear plastic, solid plastic, even old stubbies.

Locals swear they have not found a dog-dropping on their lawn since they put the first bottle out and my wife went off into peals of uncontrollable laughter at the thought of hundreds of dogs hopping around with their back legs crossed, looking for some place to go — and then descending en-mass upon the one lawn foolishly left unprotected. I stupidly suggested that Queen Liz might take the custom back to England and scatter bottles around Buckingham Palace to keep the Corgies in order — I thought she was going to choke with laughter.

With a bit of thought one could ascribe the drop-off in droppings to a new posse of rangers in a fleet of paddy wagons swooping like hawks upon any dog silly enough to poke a paw out of home territory. The run-time expectancy of a free-range dog in Geraldton is down to about 30 seconds now and falling fast — but don't try to explain this to the locals, it won't hold water, only the bottles do.

I must admit to a smug feeling that it was good that the people of Bunbury were not so gullible, but what did I find in my return, not 100 metres from my house — a two litre drink bottle full of water sitting proudly in the middle of a lawn. As I stared at it in wonderment a dog trotted up and cocked his leg against it — I thought that summed it up nicely.

★ ★ ★

I received a nice note from Peter, President of the Boyup Brook Farm Communications Group, and an official response from the group to my piece in the Mar/Apr edition. Sorry you missed the deadline for the last issue Peter, but here is the letter:

"On behalf of the owners of the Boyup Brook repeater, I wish to apologise to all for any rudeness and wrong information broadcast on channel 4, if the report in CB Action, Mar/Apr 1988 page 25, is accurate.

We are aware of the legal requirements of owning and operating a CB repeater station, in particular paragraph 16a, DOC Publication — DOC 14 (1985).

However, some respect frm CB users would also be expected. The farmers using the Boyup Brook repeater sometimes have agricultural machinery in operation 24 hours a day (at seeding, hay making, harvesting, etc.). For the sake of their own safety and/or efficiency in case of accident or breakdown, the "House set" is left on 24 hours a day. To have our families wakened and concerned unnecessarily by waffle after midnight (I have experienced this myself last year while harvesting) is not really fair, and I make no apology if that practice is politely asked to be ceased.

I can assure all that this operator at least will respond to any emergency call. I have used channel 2 in Bunbury myself to ask for police action concerning a road hazard one night while travelling to Perth, and I understand the importance of responsible radio communications.
Peter WAU723
President
Boyup Brook Farm Communications Group."

I must agree Peter, the "Midnight Waffler" can be a real pain, but I must also admit that, being a night-owl, I have been guilty myself on occasion. Being aware of the problem I try to keep my contact to a few short overs, but that is still enough to make everyone, myself included, switch off when they go to bed — I mean, who wants to be woken at 3am by some insomniac looking for a chat — and what then of the poor soul who has an emergency in the wee small hours? Oh well, perhaps the "Midnight Waffler" will still be around to take care of him — we hope.

★ ★ ★

A habit which began on 27MHz is still with us in UHF, and I hate it, especially on repeaters.

I am talking about the habit of naming everyone in the conversation for the benefit of a breaker, but not before getting a few more points into the conversation — it goes something like this:
"Back to you Bert."
"Breaker."
"Oh, we've got a breaker. Well Fred, my view is . . . Blah, Blah . . . Rabbit, Rabbit, for a minute or so, then — To the breaker, *you've got Tom in Busselton, Bill in Capel, Jack etc., (giving names and callsigns for another minute) . . . and Bert with the button down, go ahead breaker."*

What would he say if the breaker came in and said *"I only wanted someone to call an ambulance because my wife was about to give birth, but forget it — what's a good name for a girl?"*

Anyone wanting to join a conversation should have the courtesy to listen for a while to find out who is in the group, so the roll-call is unnecessary and, even if the breaker has not done his homework, he can always find out once he joins in.

Getting your point across first is excusable on 27MHz or UHF simplex where one might expect that a breaker would be trying to join in, but on a UHF repeater a breaker is much more likely to be an emergency, or somebody wanting to make a quick call to base, than another waffler.

How about starting a new habit — say "Go ahead breaker" as soon as you hear the call. Some hope!

★ ★ ★

Yesterday, I watched a 15 minute video clip about the new communications system being distributed to fire stations throughout Western Australia and I thought some readers might be interested in a brief run-down.

In the past, volunteer firemen, who handle about 90 percent of fire calls in towns outside the Perth metropolitan area, were alerted by a Group Call phone system and a siren on the roof of the station — but this was recently replaced by a pager system as a first step toward a fully computerised system, including a hard-copy printer at each fire station (and even a lot of the fire tenders in the Metro area).

Buildings which have their own sprinkler or heat sensing alarms, such as factories and shopping centres, can be linked by phone line to the local station along with the Group Call system. In the unlikely event that a phone call is not answered within the set period of time, or an outside alarm is triggered, the computer will automatically activate the pagers and a synthetic voice will announce a General Call or the location of the alarm as the case may be. This voice is heard through the pagers and the radio in the fire truck if it happens to be away from the station and, in the case of a General Alarm, the driver only has to touch a button to link his VHF radio to the telephone caller.

When a Group Call phone is answered, a button on the phone can be pressed to activate the pagers and link the phone to the VHF radio, then the person who took the call announces details, via phone/VHF, to the pagers and other receivers.

All of this means that the fireman knows what is going on before he even leaves home, which saves a lot of time in briefing at the station.

The microphone on the radio of the fire truck has a telephone type touch pad on the front of it and a touch of the various buttons will link the radio to the phones to make or receive a call, activate the station siren for a general call-out, re-activate the pagers, switch off the siren and several other useful functions including the most important, a direct link via telecom to the central computer room in Perth.

When a fireman is confronted by something he is not sure how to handle, say an unknown chemical in a fire situation, he passes the details to central, they punch it up on the computer and read off the main items such as, method of control, possible dangers, protection required, etc. At the same time, everything that is shown on the central computer comes out in hard-copy print at the station in case the fireman wants to refer back to it.

Of course, before the fireman even got moving, the computer had already printed out the time of the call, incident number, type of call, etc. and it will carry on jotting down things like what time the siren was set off, the time of a phone call and the number dialled and so on until the incident is concluded.

Sometimes I get the feeling that I will, one day, see the computer get fed up with us slow witted firemen and drive off in the truck to handle the fire by itself. Oh well, pass me another stubbie Fred, and we'll sit and watch the numbers come up on the printer.

★ ★ ★

On page 64 of CBA for Mar/Apr which, you may recall, I did not have at the time of writing for the last issue, The Monitor made mention of a Perth group, going under the grandiose title of Perth Metropolitan Radio Communications Group and Volunteer Rescue Inc. who want to set up a communications and rescue equipment vehicle.

Come off it fellers — what on earth for? I hate to be a wet blanket, but every fire station in the Metro area is fully equipped for all sorts of rescue work and they are available 24 hours a day — you also have highly trained State Emergency Service units covering the Metro area. Take a trip to HQ at Belmont and ask to see some of the gear, rescue equipment, mobile command centres, welfare wagons and communications vans that will have you drooling for a week, and it's all there for the asking — including the labor force.

Set up a communications van if you like — you could use it for things like providing communications between polling places for candidates in local elections, or controlling check points for open road cycle races (Both of which are being done by Bunbury Radio Club this month) — you might even get to use it for liaison between the CB public and some official body, but the average CBer's car would do almost as well and I'll bet most SES units would take all of 30 seconds to arrange the same contact. They have CBers in their ranks too you know.

I'll bet you could not name me one type of incident you might remotely dream of becoming involved with, which could not be handled better by the Fire Brigade, SES, St John Ambulance or the Police. As Communications Officer with Bunbury SES, I was recently involved with all four services in a major exercise and I am also a volunteer fireman, so I know what these people are capable of, both as individual units and as a combined force and I can tell you one thing — they would be home and hosing down before you worked out which way to go.

Stick to monitoring for emergency calls and passing them on to the proper authority or, if you want a bit more excitement, offer yourself as a volunteer at your nearest fire station, ambulance or SES, depot — I'm sure they would be happy to sign you up.

★ ★ ★

According to the nifty calculation method Pete sent me, that's about two pages worth, so I am off.

If you have anything for the next issue, get it to PO Box 31, Bunbury before the 2nd of July — like I said before, you've got to be quick.

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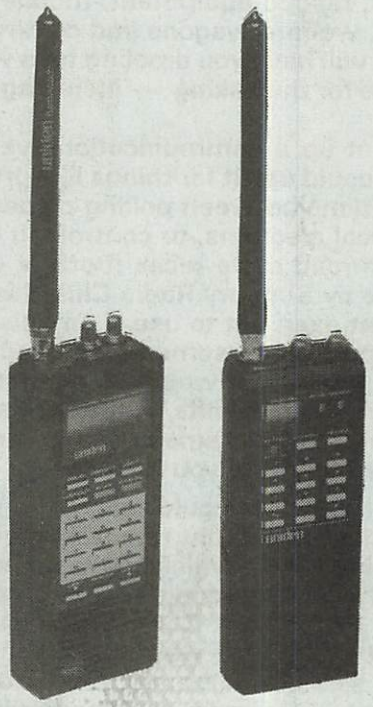

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SCANNING AROUND

By JOHN WILLMOTT

All sorts of events are happening around Australia during the celebrations for our bicentenary, and many of them require communications networks to ensure their smooth running.

Two major events using UHF networks are the Australian Bicentennial Exhibition and Brisbane's Expo '88.

Billed as "a travelling roadshow", the Exhibition has been travelling to and setting up at various population centres (mainly country towns) since the start of the year.

Nationally, it has had little publicity and much of what it has received has been less than complimentary.

I've not visited it, so I can't offer any comments about its content or worth.

However, when the show made it's first visit to a State capital - Adelaide - I did take the opportunity to engage in a little eavesdropping.

It was quickly obvious that the employees using the show's three UHF channels were - in terms of their knowledge of communications procedures and their ability to use the expensive equipment provided - little more than cowboys.

With the ever-growing demands on the commercial UHF portion of the spectrum each user has the right to expect that other users make the most efficient use of the available channels.

By the same token, each user has an implicit responsibility to use the channels effectively and efficiently, recognising that they are a valuable and fast diminishing resource.

The people cavorting around with the Bicentennial Exhibition seem to think otherwise!

Durting the week I listened in on them they used more than 60 per cent of their on air time to chat, debate and have a laugh or two.

Judging by the number of times they used "Come back," "Good buddy" and other similar terms, some of the users seemed to think that a commercial UHF channel had to be used in much the same manner as Hollywood portrays CB usage.

If you're in the area of the "greatest roadshow", would like to find out how NOT to use the commercial bands, and want to learn something about how a very expensive Federal Government initiative is managed, try lisetning to:

472.175
472.500
472.600
] VL2ABE

To hear a much more efficient and effective use of the airwaves at a major event, race off to Brisbane and tune in to Expo '88.

According to the Department's last issue of the Public Access Radiofrequency Register (PARR) there are three or four UHF frequencies assigned for use at Expo '88, but there are also some newly assigned frequencies in the area of the Expo site which I suspect are all a part of the Expo '88 network.

Putting two and two together, I reckon that the Expo authorities have 12 UHF channels available for use. They are, in numercial order -

454.000/463.900
454.100/463.600 On-site vendors
454.675/464.175
454.700/464.200 Security patrols
455.100/464.600 Car Park
455.300/464.800 VIP/Tour guides
455.575/465.075
455.600/465.100 Operations
455.875/465.375 Expo Control
456.025/465.525 Security
456.175/465.675
456.200/465.700
457.975/465.475

I've been able to establish that roving security personnel use 454.700/464.200 and other security men use 456.025/465.525.

One channel is almost certainly reserved for use by the four monorail trains that run continually around the perimiter, and there's probably another channel for medical purposes.

My guess is that the Expo '88 administration has a couple of channels for general management purposes, and that there could be a couple more held in reserve for emergencies.

Some of the exhibitors also run their own nets to ensure the good management of their pavilions.

The French can be heard (in French) on 453.850.

The Americans and Japanese have been noted running around with handsets but I've been unable to discover their frequencies.

There's also a whole lot of handsets being used by three major security companies - T.N.T., Wormald and United Security Services.

These companies provide security at various exhibitor's pavilions under contract to the individual exhibitors, while T.N.T. also provides the security forces guarding the whole site under the control of the Expo organisers.

VKR has assigned a frequency for use at Expo '88, but I've not been unable to discover what it is.

Shinwa are the official radio suppliers at the event so expect to see a lot of their equipment.

* * * * * * * *

All mail to:

SCANNING AROUND
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Tech Tips

CRANKY CURLY CORDS

The curly cord which connects your microphone to the CB rig may look tough, but if you ever investigated the wires contained inside that outer sheath, you come to realise just how fine they are.

Being fine, they are susceptible to damage by the constant twisting and bending of the wires during use. Most manufacturers go to some lengths to eliminate this movement by installing special plastic sleeves and holders in the mic. and socket, but despite these measures, the wires can break — sometimes along the length of the cable itself.

No modulation, or intermittent modulation are prime symptoms of a break in the mic. cord continuity. Another indicator is the presence of a high-pitched whistle during modulation, which from our experience seems to accompany a loose connection within the mic. itself.

If you suspect that you have a problem start by moving the cable gently where it enters the mic., and the mic. connector plug at the other end. Have someone check your modulation while doing this and if you get a report that your transmission was intermittent, have the lead checked out. Similarly, you can check the whole length of the mic. cord by moving it while transmitting.

If you isolate your problem to the cord or connections, take the complete CB and cord to your local repairer. Re-soldering the mic. connections is no job for a novice!

CHEAP TEMPORARY 27MHz ANTENNA

A cheap, quick temporary antenna which can be rolled up when not in use may be handy for caravanners or 4WD enthusiasts.

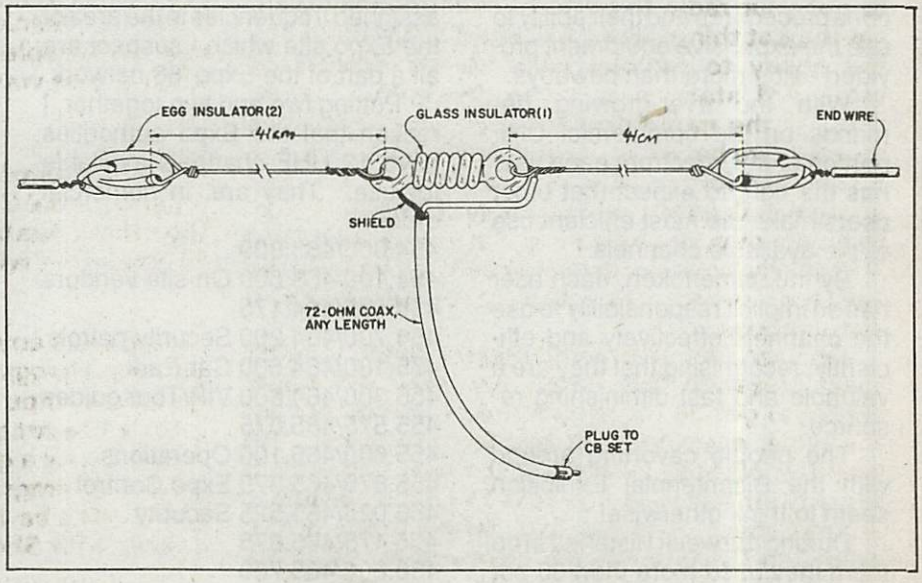
Although not as efficient as a proper base station antenna, it may also be used for this purpose.

All you need is two ceramic ess-type strain insulators, and a glass or ceramic insulator to connect the two lengths of wire as shown in the diagram; two lengths of either number 18 solid copper wire, or regular stranded antenna wire to measure 104 inches each when connected as shown; a length of 72 ohm coaxial cable — not regular 50 ohm cable. The length is dependent on your own particular requirements, but keep it as short as possible. (Normal TV coaxial cable is 72 ohm).

Simply solder the outer braid to one side of the antenna and the centre core to the remaining side, ensuring that they stay insulated from each other. (Leave the insulation on the centre core up to the point that it is bound into the antenna).

Using a regular PL259 antenna connector, terminate the other end of the coaxial cable and you are in business.

As most CB signals are horizontally polarised, it's best to try and mount this antenna vertically, bringing the feed-line away from the antenna at right angles for at least eight feet.



SYDNEY SCENE

By STEVE GRIFFIN

Obviously a few raw nerves were exposed by the story about the infamous channel 2 repeater that I finally put together for the last issue. The most common reactions were question like: "So why is it that we still don't have a repeater?" or, "Why so vague — we only want to know where it is. Rumor has it that the licence is up for grabs and we just don't know if this repeater will ever exist'.

The general response to that article was: "A good story Steve — a bit far fetched, but good!"

I didn't set out to win any awards but at least its fact. So much so that the man behind the scenes, David Flynn, actually telephoned me as soon as he finished reading the article to tell me that I'd hit the old nail on the head. As a matter of fact he said that there is a whole pile of old details that could make some pretty interesting reading.

So, for the sceptical, believe me — it's fact. For those who wish to be a little picky, it was a little vague at the end, but for a good reason.

There's bound to be more, soon!

★ ★ ★ ★ ★

The sandbagger's ears must have been burning after listening in to a couple of CB operators who decided to give out a few of their closely guarded secrets. Yep, you got it, hot tips on how to get your radio to perform exceptionally well. Up-market things like "AM Fluid". AM Fluid has the ability to remove heterodynes caused by other AM stations in close proximity. "Slider Oil", as the name implies enables you to slide somewhere between 10 and 28 kHz, and the one no one had forgotten was "DX-ellene". You can apply this fluid not-so-sparingly to the transmitting side of your antenna and it works wonders! QRM Jelly was another that said to be very effective when applied around coaxial terminations.

Oh boy, did the sandbaggers start making their presence felt when we said we knew where to get all the wonderful products. Forget the price, everyone just had to have some. TVI was the biggest problem and there was also a remedy for this — a low cost TVI Filter, which is a large sheet of metal that, when fitted to the offending TV antenna, effectively stops all forms of TVI. This was called the DX Activator.

It was amazing to hear how many "old timers" were still around. You know the type — on air until the sun comes up. These guys — girls — were actually some of the originals from the good old pirate days (pre 1976). Those were the days when we used to run around in HR Holdens and panel vans with magnetic aerials, and yank 'em in every time a police car was getting too close. To put it bluntly, I though these operators were all dead and gone — or gone, anyway.

A lot of people just happened to be on air that rainy Friday night and heard a few of us talking about these old famous remedies. These goodies were the brain children of the CB Action staff in a 1977 issue of the mag and since that day, swear to God, nobody has forgotten.

★ ★ ★ ★ ★

We would like your opinion on the re-introduction of bumper stickers, key rings, call signs, QSL Cards, as well as lighters, pens and other items for the office, featuring a few different quotations, codes, pictures etc, along CB lines. All comments should be sent to: CLUBS P.O. Box 375, Chatswood 2057 NSW.

★ ★ ★ ★ ★

Heard a rumor that Novice operators are allowed on the two metre band now. Apparently it has been recommended that they use low power and remain between 144 and 146 MHz. Can't see it happening — most of the equipment for these frequencies CAN go elsewhere and DOES use switchable power. Don't you think they MIGHT just wander a little!

★ ★ ★ ★ ★

Other countries are looking at the feasibility of an 80 channel CB service. Could it be, one day in the future, Australia might get it too? 27 Mhz FM of course — what else.

★ ★ ★ ★ ★

Are there any good software communications packages/programs available for the Commodore 64 Computer? Anybody with some info, be a devil and put pen to paper and I'll let everyone know. So far a quick check has come up with an MFJ CW program and also a MFJ RTTY program. May be interesting to those of you who dabble with Short Wave Receivers or similar.

Drop me a line PO Box 40, Gladesville 2111 NSW.

The MONITOR

I can see why the other scribes are always asking for contributions to their column. The last couple of months have not seen the old mail box bursting at the seams with suggestions for the Monitor, however we did get a nice note from RR201.

In our previous reports from Radio Rescue Inc, I made a mention that RR201 hadn't included his name . . . so now I know it's Mark.

But the interesting thing is, his letter was addressed to "To Whom It May Concern" (The Bunyip?).

Now Mark, Bunyips only exist at Murray Bridge, 80 kms east of Adelaide, although the local newspaper at Gawler is called *The Bunyip*. I don't live at either of these places, so that can't apply to me.

Mark was complimentary about our abbreviation of his very long article, and was pleased to see that in the reduction we didn't lose the concept of his real message.

He still hopes the "Nongs" take heed and make some effort to make the world of monitors easier. (The name is Graham, Mark).

SIMPSON DESERT RESCUE

The *Adelaide Advertiser* reported recently on the rescue of a group of 10 men and one woman stranded at an abandoned outstation on the banks of the Coongie Lake near Innamincka, where roads to and from the outback town were impassable. One of the group had raised the alarm using a Citizen Band Radio, and through good skip conditions had made contact in Perth.

The Perth operator in turn had contacted the father of the caller, who lives at Red Cliffs, and from that contact, the Innamincka publican was next called and asked to have the police arrange a food drop to the area.

Outback tour operator Mike Steele air dropped enough food to keep the party in supplies for three days, and said later that there had been 177 mm of rain in the area during the previous 24 hours.

POLICE HIGH FLYERS

Outback emergencies are increasing as the popularity of 4WD vehicles takes hold.

The SA Police have a special air division trained in Outback rescues.

Based in Adelaide, it boasts six pilots available to fly the twin engined Cessna fleet, and they can be called upon at any time to look for people stranded in the desert or marooned in floods.

They also search for escapees in wild terrain and fishermen stranded at sea.

Their "mini airline" flies police and prisoners all over SA, and sometimes interstate in three, eight-seat Cessnas.

They were also involved in the rescue some months ago of a fishing boat in difficulties between Esperance and Port Lincoln. This was the same boat mentioned in the report from Mike, of Coastguard Pt Lincoln a couple of months ago.

COASTGUARD LOG BOOK

I once asked Mike (Coastguard Pt Lincoln) what an average day meant in relation to call frequency.

He has now supplied me with a page from his log book for one 24 hour period.

However I feel he may have picked this one out as his busiest day, but regardless, it makes interesting reading.

That's all for this month . . . Send in your contributions to The Monitor, Box 83 PROSPECT SA 5082.

A DAY IN THE LIFE OF A MONITOR ACRM & COAST GUARD

13/1/88

0530 Out of bed to gather information for 0600 observations for ABC (and receive weather forecasts).
0745 Broadcast weather information to all ships.
0745-1714 Received and logged 35 routine calls for vessels at sea, and made phone call as necessary (1987 total calls 7122).
1714 Received call on VHF from Coffin Bay advising winds possibly in excess of 50 knots had struck the town.
1714 I radioed all vessels warning of the approaching storm.
1716 Received calls from the vessels *Mistress, Albatross* and *Apres Vous*. Wind direction at Coffin Bay so they may take shelter?
1715 *Albatross* advised would take shelter and ride out the approaching storm. Request notify relatives all OK wait till after the storm.
1717 Advised family in Tumby Bay of above.
1728 *Apres Vous* decided to try and beat the storm and make for the safety of the marina.
1756 Vessel *Vagrant* advised winds gusting to 150kph at Taylors Island.
1757 Vessel *Mistress* advised winds to 60 knots at Peake Bay.
1757 Received phone call from family *(Apres Vous)*. I advised *Apres Vous* now sheltering from storm behind Bickers Island.
1800 Vessel *Croweater* reported 50 knot winds at Spalding Cove.
1807 *Croweater* advised yacht *Sovica* aground at Spalding Cove.
1807 Rang police who advised SES not able to assist *Croweater*, advised would assist if other help could be arranged.
1811 *Vagrant* advised yacht *Southern Osprey* aground at Taylors Island would assist.
1812 *Southern Osprey* radioed for assistance.

● To Page 61

MXLR ANTENNAS

It was a comfortable sunny day, with just a touch of sea breeze, when I met a man with a house full of redbacks. Not the native Australian arachnid, *Latrodectus hasseltii* — but rather the CB antenna seen on the roads and highways of Australia.

Culburra Beach, near Nowra, is a quiet retreat from Sydney, where antenna wiz Max Short first started in CB over fifteen years ago. Now, from a smallish building to the rear of his handsome brick two-storey, the master and his apprentice manufacture the most recognisable CB antenna in Australia. Shiny black fibreglass whips, with the common red and occasionally blue windings — the 'Mexcellar' for MXLR range.

On the return leg of a trip along the NSW south coast, I had been invited by Max to visit his home and antenna workshop. Max seems made for the friendly relaxed lifestyle of the coast, showing me around the workshop and tutoring me in the art of winding helical whips.

One freshly-wound UHF whip later, I settled down to the task at hand — the story of MXLR antennas.

To begin with, how does a leading motorcycle mechanic find himself designing and making CB antennas?

"I got into it from the mechanical side, from the motor industry. Now, a lot of people come up with a design only to be told 'You can't build that'. But in the motor industry, there is no such thing as "can't" — you can, you have to, it's just a matter of going about it a different way."

Max became adept at finding solutions to problems, going back to original concepts, jig-making and precision construction to put an idea into a mechanical reality.

When he first became interested in CB radio, Max was drawn to the newly-formed XT Club, based in Sydney's outer western suburbs. Like others, keen to experiment, Max and two friends saw antennas as being the key to performance.

"There were three of us — myself, Bruce and a very clever fellow named Chez, who was an industrial chemist and Chez built some test gear and experimented with impedance and the pitch of windings and so on.

"In those days everything was constant-wound, a braided stick all the way, good for short range but not for long range. And so we started designing aerials and giving the designs to another XT member who manufactured them — among those was the first top-loaded helical in Australia.

"But, as the designs grew better, no-one wanted them, no-one saw the need to make better aerials when the ones they had would do the job okay. So we started to build them ourselves. And we also set about solving a few problems."

The first of these was over-heating of the aerial, which Max claimed was caused "purely by the heatshrink on the outside — especially if you used a bit of grunt and the heatshrink was reacting rather badly. The old heatshrinks were also causing oxidisation of the wire — something you can find quite a few references to in the ARRL books."

Max's designs led to monowire windings and the use of a newly-developed epoxy coating. "It was tough, very tough. We also glued the fibreglass rod to the nut, instead of rivetting it. None of this was very dramatic to us, but we got a super-reliable and efficient antenna without going overboard.

"People started to look at our aerials and liked them, bought them. There wasn't anything around to match them and that's when we came up with our slogan — *'another antenna to copy'*."

Max considers one of his greatest achievements to be the famous Stationmaster design. The popularity of this base antenna is such that, although the tag has long been the registered name of his aerial, it has also come to be accepted as meaning any base aerial of similar style.

Max began with a 5/8 wavelength 'ringo' design, which he readily admits was copied from the American Cushcraft, "the original and the very best". This was Australia's first ring-fed aerial, but again, Max couldn't help thinking there might be a better way to do it . . .

"There had to be other ways to feed the antenna, rather than having the coil out where it was. You really need radials on a 5/8 to get it working right and of course in the country, in western NSW the cockatoos would come along and hang off the radials.

"So we wanted to get rid of the radials. And after a while we decided to make a half-wave, which gave us beaut results. It gave us both high-angle and low-angle radiation and got rid of spurious emissions, being DC grounded. It's still going, we make them at a rate of about five hundred a month. Of course a lot of copies are made, but they just copy the mechanicals without applying RF thinking. And there are some horrible versions of them — some guy even has a short version, but if it's not a half-wave long, then it's not radiating properly, so who the hell would want it?"

Max has always maintained that even if the ideas aren't new, the technology is — and that is the key to many a good antenna.

"RF theories are pretty well the same and if you take a lot of old ideas and stick some modern stuff into them, you'd be suprised what great stuff you'd get. Even in 1962 the amateurs had something like the Station master, which they called the phased vertical. But they didn't have good fibreglass rod, they didn't have good aluminium, PVC pipe or even decent insulation tape. So you can go back and look carefully and see a lot of old ideas

didn't really work well because they didn't have the products we've got.

"Any guys who want to do any experimenting should just turn around and look at what worked well years ago."

I was somewhat bemused to hear Max refer to RF theory as being 'pretty well the same'. Not that I think modern science holds all the answers, but the last time I checked, the speed of radio waves was still the same and the basic laws governing AC, DC and RF hadn't changed.

I point out to Max that none of the books have been re-written. He smiles, because he thinks it's about time some of them were.

"Aerial tuning is all about resonance, everyone knows that, but atmospheric conditions will cause a variation of up to 3 MHz, at 27 MHz, to the resonance of the antenna. Even an ideally tuned antenna can be found to be resonant from 25-28 MHz depending on atmospheric conditions. Down here, you get warm north-westerly conditions which cause the antenna's resonant frequency to rise and cold dry south-westerlies which make it drop. So we believe that anyone who tunes antennas, anyone with a tuning meter, should have a test antenna known to be correct, with a very low SWR on frequency.

"If you don't have a test aerial you can't be fair dinkum, because it's the best way to see if a mounting is okay. Just put a test aerial on and if you can't get a reading, then obviously you have to alter the mounting."

You could never test the viscosity of oil or octane content of petrol without reference to a known standard, Max reasons, so why should this be any different? "Trying to SWR an antenna without that same standard is like trying to guess your weight".

Back onto more familiar ground, we discussed the difference between MXLR aerials and other makes.

"Probably the biggest thing is that we prefer to use a hollow fibreglass rod. Fibreglass is a dielectric and it's all attenuation, so a hollow rod will perform better than a solid one, because there's less attenuation of the signal. Then we epoxy-coat the whip, because epoxy will withstand more heat and abuse than plastic. You can take an epoxy whip and rub it on a brick without damage, but try that with a plastic antenna and you'll get a dozen holes. And even one hole can be fatal, especially on marine antennas, where water gets in and rots it away. But they still have marine aerials coated with plastic heatshrink, but if you use epoxy and it won't happen.

"Epoxy also cuts down on top-end inertia, has a lower air drag and also allows a guy to have a nice shiny whip. You may have a $25,000 Honda Accord and you might not want a plain black whip. You may want something that's shiny, with pretty red or blue windings. Why should you buy a beaut car and then someone says if you want a radio, you've got to have a black whip? That's not the right attitude. So we make our 'designer whips' — if a guy wants a whip that's pretty, we make 'em pretty.

"In the same way, if you want to put a whip in a certain place, we make a whip to do that too. People know where they want the antenna to go and I think that if they want to put it on the centre of the roof, or the gutter grip or on the mudguard, rather than say 'You can't do that', it is essential for the industry to make an antenna for wherever people want to use it.

"You can't tell a guy he's got to put a roofbar on his new Accord, he might not want that. He may want a little gutter grip or he might want a boot lip mount. But that's been the attitude of the industry for a long time, I think, when it's really their duty to make the things which will suit what the people want to use."

Max cites the popular bumper-bar mount for 4WD CB antennas as being a perfect example.

"Now I reckon that mounting an aerial between the body and the bull-bar is awful, but so many guys are doing it. So we built an aerial specifically for this position — the Extenda. That aerial has the windings lifted up high and is balanced in such a way that the bottom parts are not going to affect it much, so that it gives a good

FOR CB IN WA

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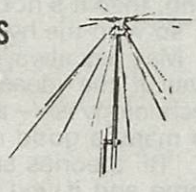

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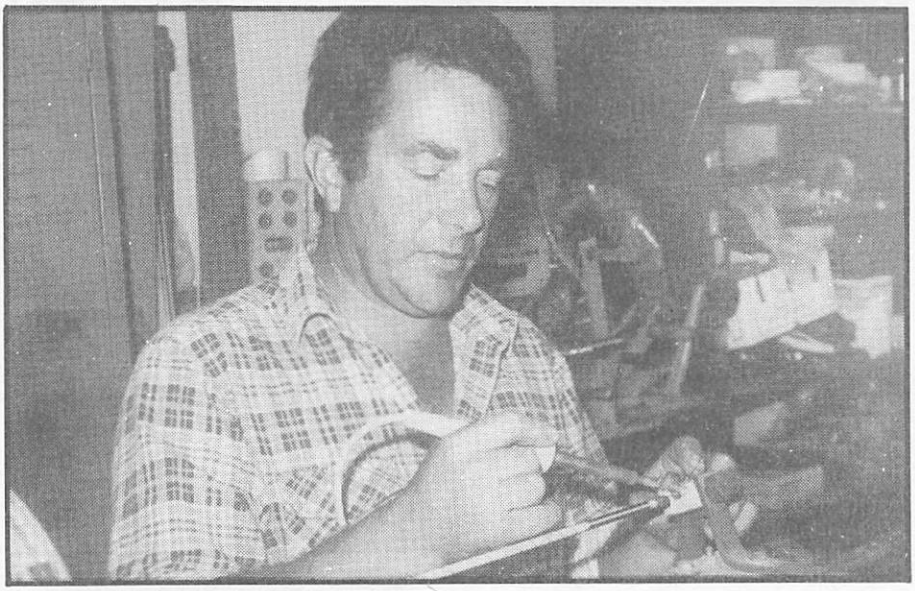
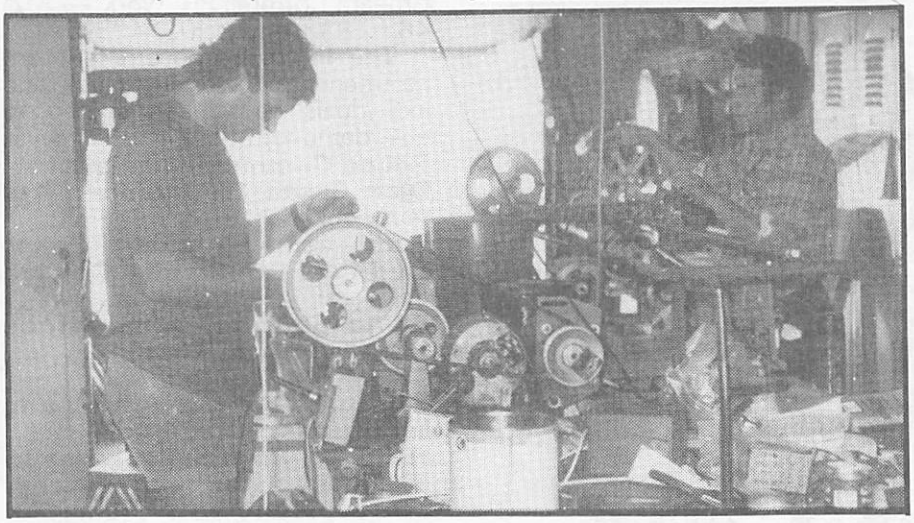
result when mounted in that position."

That philosophy has been put into practice throughout the MXLR and 'Exeter' range of antennas — 27 MHz, marine and UHF. For any mounting position, Max claims to have an aerial designed to do the job right. As well as a new 'universal-mount' UHF whip, which can go almost anywhere on a vehicle.

"With this new antenna, you may not get 100 percent efficiency of an aerial designed for one particular spot, but what we attempted to do was provide an antenna which would basically go in any position. It required a whole different design set-up and we were fiddling with it for a long time.

"UHF is not at all like 27 MHz of course, especially in antenna





mounting. With existing aerials, say a 4.5 dB whip, the very worst place to mount it is on the gutter, where it is supposed to get a mirror image from the car. And the next worst place is directly in the centre of the roof, again because the groundplane it sees is way too large, which detunes the antenna."

One reason why 27 MHz was chosen for CB in America, Max maintains, is that with an antenna mounted in the middle of the roof there was about nine feet in every direction on the average 'yank tank' of the era. Which was a handy quarter-wavelength.

The optimum position for 27 MHz, maybe, but not for 477 MHz. Max believes that on UHF, the best location is on a tuned disc on top of a roofbar.

"A disc about 1ft wide gives the right groundplane and mounting that on a roof rack keeps it clear from the vehicle's own groundplane. And this is coming back into fashion as people insist on better performance."

Another of Max's most recent developments is the popular and acclaimed Teflock-259 connector, which he designed for Captain Communications.

"I suppose the Teflock got started when we got tired of plugs which you couldn't really earth properly. I wanted to see a co-axial connector which would hold the plug solidly to the cable and gum it up into one lump. Maybe you can't make it much better electrically, but you could make it better mechanically, make it easier to fit.

"We made it crimp itself onto the cable with a locking ring and it's easy to do up, you can't overtighten the thing. It's almost foolproof, even a guy with an 80 watt soldering iron which would cook your normal plug can fit a Teflock, because we used Teflon insulators so you can't melt it. And even if you only had an axe or a hammer, you can crimp it tight."

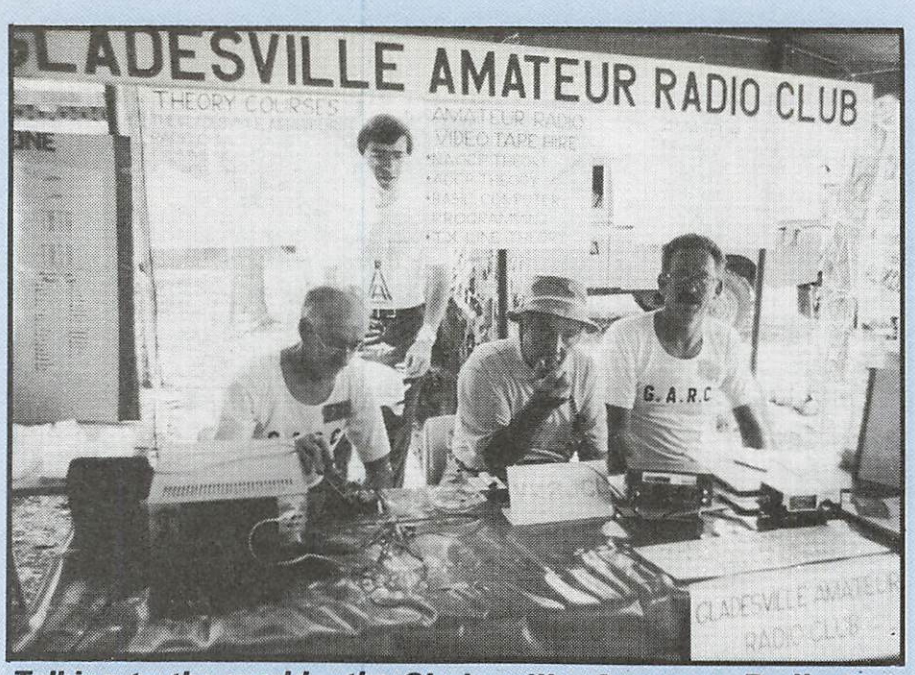
The next step was what Max called a 'thumping good base'. "The same design has been around for a long time, but there are a lot of ways we've improved it. It may be twice as dear as the old one, but you're looking at something ten times better and that's good value"

Before I left, I asked Max if he had any hints to pass on to budding homebrewers of aerials.

"Something that's just impossible to get by without is that household super magic, fingernail polish. I mean, the women have them in clear and colours, use them a few times before they go out of fashion — but it's a good thing for every guy to pinch.

"You can put a dab of it on an adjustable tip antenna and the adjustor never shifts. You can paint over the bottom of a base once you've fitted it and so you don't get water on it, or corrosion. Every radio tech should always have a bottle of fingernail polish!"

— David Flynn



Talking to the world —the Gladesville Amateur Radio Club.

IT'S ON AGAIN — SYDNEY RADIO CLUB FIELD DAY

The Sydney Radio Group is about to conduct its third Communications Field Day. After the incredible (around 3000 thru gate) success of the previous field days they are once again moving to an even larger venue (Douglas Pickering Pavillon) at the St Ives Showground, Mona Vale Road, St Ives. The date — 3 July 1988.

The Field Day caters for the interested public and the electronics buff. There will be demonstrations and displays of computers, radios, amateur television and other communications equipment. Interested parties will be able to buy directly from the retailers and also buy and sell second-hand equipment. In fact if it glows, makes a noise and can be plugged in bring it along for sale, display or simply come along and browse.

Sydney Radio Group is a club with interests in the communications field — The club caters for both Amateurs and Citizen Band operators. Their aim is to promote friendship and assistance to all people.

The club has been involved in various charity appeals such The Sherre Collins Appeal, the Big Eagle MS Appeal and more recently the Justin Bale Appeal.

MULTIPLE SCLEROSIS: The Big Eagle MS Appeal has been invited along as the charity of the day.

One of the features of the previous field days was the operating radio stations — this time there will be several stations showing various aspects of communications such as amateur television, and packet radio in operation.

On the day an experiment will be taking place in an attempt to receive amateur television being broadcast by VK2XBR from Springwood in the Blue Mountains.

Also on call will be the 2 Philips repeaters located at Willoughby and Prospect. These repeaters, transmitting on 25 watts should give a fine example of the advantages of UHF.

Interested people can contact the Sydney Radio Group, PO Box 184, Northbridge, 2063. Phone: Graham Cotterell PH: work — (02) 467 1833, home (02) 498 2742.

The following government departments, companies, clubs and individuals have been invited to give demonstrations and displays:

Police Community Relations.
Dick Smith Electronics (amateur equipment)
Tandy (retailers)
Sydney CB Radio Centre (retailers)
State Emergency Services (Communications Network)
CB Action
Standard Communications (importers)
Hatadi Pearce Simpson (importers)
Julie Kentwell (amateur television)
Sam Voron (packet and amateur radio)
Gladesville Amateur Radio Club. (Amateur classes and video display)
Philips (Manufacturers)
CREST (emergency monitors)
Intregral Fibre System (fibre optics)
Santronics (importers)
AUSSAT: satellite
Mobile One (antenna manufacturer)
Toby St John (operating Citizen Band Base Station)
7 Field Regiment. Royal Australian Artillery (signals vehicle)

Clairvoyant: The ultimate in communications, Lyn Gander and her Tarot card readers will be on hand.

Food and drink will be available.

Make it a date — 3 July at the St Ives Showgrounds!

Victoria's Country Fire Authority - the CFA network

By Richard Barrett

Because of the many requests received by CB Action for details of the Victorian CFA's radio network we commissioned the author of the very useful E.S.G. Frequency Registers, Richard Barrett, to prepare this overview.

Richard has detailed each of the main radio channels (channel numbers and frequencies) and shown the use to which each is put by Victoria's volunteer fire fighters.

He has also provided the name and number of each of the 25 fire fighting 'Regions' the CFA has divided the State into for administrative purposes.

If readers show sufficient interest in the organisation of the Country Fire Authority we will ask Richard Barrett to provide full details of the various 'Groups' and 'Brigades' in each Region for publication in a future issue of CB Action.

Ch.	Rx Freq.	Tx Freq.	Region or type of use
1/31	163.120	163.120	15, 24
2/32	163.240	163.240	10, 13, 21, 23
3/33	163.000	163.000	5, 8, 18, 19
4/34	163.150	163.150	7, 1, 16, 22
5/35	163.270	163.270	14, 16, 20
6/36	163.300	163.300	6, 9, 12, 17
7/37	163.330	163.330	1, 2, 3, 26
8/38	163.030	163.030	4, 13
9/39	163.810	163.810	'Go To' channel
10/40	162.970	162.970	Aircraft
11/41	163.180	163.180	13
12/42	163.660	163.660	'Go to' channel
13/43	164.170	164.170	'Go to' channel
14/44	163.820	163.820	'Go to' channel
15/45	163.000	163.000	Restricted Liasion channel
21	164.050	164.050	Command channel
22	164.830	164.830	Command channel
50	163.195	163.195	South Australian border
51	163.510	163.510	South Australian border
52	163.255	163.255	Fiskville (low power)
53	163.360	163.360	South Australian border
54	163.210	163.210	South Australian border
80	165.730	165.730	Link frequency
81	165.820	165.820	Link frequency
82	166.540	166.540	Link frequency
83	149.675	149.675	Link frequency
84	154.875	154.875	Link frequency
85	149.675	154.875	Link frequency
86	154.875	149.675	Link frequency
87	149.850	149.850	Link frequency
88	155.050	155.050	H.F. link
89	149.850	155.050	H.F. link
90	155.050	149.850	H.F. link

N.B. Chs 31 to 45 are duplicates of Chs 1 to 15 but have reduced power and are for short range use only.

C.F.A. REGIONS

No.	District
1	Ballarat (City)
2	Bendigo (City)
3	Geelong (City)
4	Casterton
5	Hamilton
6	Colac
7	Geelong (District)
8	Dandenong Ranges
9	Warragul
10	Sale
11	Bairnsdale
12	Seymour
13	Knox Group, Lilydale
14	Melton
15	Ballarat (District)
16	Ararat, Westmere
17	Horsham
18	Swan Hill
19	Bendigo (District)
20	Kerang
21	Bendigo (District)
22	Shepparton
23	Wangaratta
24	Wodonga
26	Dandenong

UHF NEWS

By GREG TOWELLS

Welcome to the July/August edition of UHF News. Thanks to all who have taken the time to inform me of changes and news regarding their local UHF scene. Remember, if you want to see your UHF news written up in the next edition, I must have it in front of me no later than two weeks from when this magazine appears on the stands.

★ ★ ★

A number of changes to the UHF Repeater Network occurred around the country during the past few months.

News came from Bega regarding the operation of Channel 6/36. Athol McCoy, owner of 6/36 Bega, reports coverage from Ulladulla in the north to the Victorian border in the south, and is more than pleased with its performance all round. All technical work on 6/36 is carried out by Bill Higgins, of Eden Electronics. Athol also says that sales of UHF radios have gone ahead in leaps and bounds since the commissioning of the repeater, as local hobbyists and businesses come to realise the benefits of the UHF medium and repeaters.

★ ★ ★

A new repeater for Canberra and districts has been established, courtesy of the Australian Outward Bound Memorial Foundation. The history and establishment of this repeater will be the subject of an article in the next issue (all going well, that is!). Operating from the Brindabella Ranges, the new repeater uses Channel 7/37, and is situated at a height of around some 1750 metres ASL. Coverage achieved is nothing short of amazing. The repeater has been accessed by operators from as far afield as Sydney, Young, Tumut, Cooma, Shoalhaven Heads and Wagga. For those familiar with these distances, I need say no more. The repeater itself consists of a FM828, kindly donated by Philips, with antennas, diplexers and fittings obtained through donations from Outward Bound's supporters.

Outward Bound Australia use radio extensively as a part of their expeditions into remote and wilderness areas, and planning to incorporate UHF CB into their system came after study of the CBA repeater listing and field experience showed many of their expedition areas are blessed with at least one reliable repeater system. However, there was one area that was not well covered by any repeaters — that area being one of their main expedition areas — the area west and south of Canberra. The decision by the group to establish a repeater in this area became the final determinate to move Outward Bound's radio communications into UHF CB.

Overall, Outward Bound are pleased with the service the unit is giving to similar groups and individuals in the area. One final comment to users in Canberra and districts from the group. Would you please try to restrict the use of the repeater to when it is required to get a message to someone distant, or away in the mountains.

Since the 7/37 repeater is located at a high altitude, the coverage area is huge, and the potential user number high, so many people will be listening to every conversation. When communications are required only in the Canberra area, please use the existing two repeaters and leave 7/37 for those people who don't have an alternative.

I wholeheartedly agree with this advice, and will add one last comment. If your contact is within simplex range, acknowledge the fact as soon as possible, and move to a clear channel, so as to let other users utilize the repeater facilities.

★ ★ ★

A new repeater is soon to be established by the Huon/Channel UHF CB Repeater Association in Tasmania. Channel 8/38 is the channel allocated, and a major drive to raise fund to establish this repeater in the Huon region is being made by the Repeater Association. The proposed site for 8/38 is Mt Gray, and tests with a temporary repeater enabled coverage of most of the east coast of Tasmania, and from St Helens in the north-east to Port Davey in the south-west. This area to be covered includes some of the most inhospitable country in Tasmania.

Spokesman for the Huon group, Mr Ron Flakemore, said the repeater would provide a service not available at present in the Huon area, and would be vital as a safety measure.

The availability of a repeater in the area would provide a network of safety and convenience for emergency services, shipping, road users, bushwalkers, fire services, forestry workers and any other individual or group with access to UHF CB, to call for help or information. More information on the project can be obtained from Graeme Kingston, at Castle Forbes Bay, on 97 1574.

★ ★ ★

I received a letter from the secretary of WALGRAZ, the group responsible for the establishment of the 8/38 repeater in the Walcha area. The reason for the correspondence was my previous comments regarding repeaters not being written up in the column.

The writer claims that many operators in his area wrote to inform me of the 8/38 repeater in Walcha, and it has only been mentioned once, with credit being given to a SA writer. Firstly, the 8/38 repeater in Walcha has been in operation since May '87, however the first notice I ever received of it was from a writer from Rosanna in Victoria, who was simply passing through the area. No local seemed to have been bothered to send any details until after the first lot of info was published. When full details of the Walcha repeater were received at the PO Box below, it was fully written up for the next issue.

Sorry Norman, but if you cannot find a full write-up of the WALGRAZ repeater in CBA UHF News March/April edition, then I suggest you break your white stick over the head of your labrador and give the game away, as I'm sure that my copy of the particular issue was not the only one where the write-up featured.

My original point still stands — if you want details of your repeater or any UHF news to appear here, then write to me, and make sure your info arrived on my desk NO LATER than two weeks after the previous issue of CBA appearing on the news stands.

★ ★ ★

Just about everything was said in the last issue about the move of Sydney's Channel 8 repeater to Channel 4 at Mt Riverview. During the time elapsed since the move, 4/34 has given a marvellous account of itself, with coverage extending well into the western areas of Sydney. The timeout period is of a reasonable length, and the repeater tail is short and very comfortable to work with. In short 4/34 is a pleasure to work through.

Having said that, now this. It seems that the ratbag vandal element have seen fit to almost take over the repeater during evening hours, with some of the most unbelievable crap being broadcast across the repeater. The whole range of power/mud station arguments, noises, blurts and disruption have made operation in the evenings a misery on 4/34. So when are the great toothless ones from DOTAC North Sydney going to act and do something about this farcical situation? I sure get really sick and tired with paying taxes and licences only to have this crap continue, and I'm certain I'm not the only one. What do you think?

★ ★ ★

Continuing on with the broadside at DOTAC, I am concerned over the plague of commercial operators who swarm all over the UHF CB allocation. I must point out that many commercials acknowledge the fact that the channels are for all to use, however it is those who think the channel they sit on all day is for their exclusive use only, and "get off" anyone else.

The main offenders seem to be the bigger companies, ones with a massive base and upwards of four mobiles. I sometimes wonder about these firms, where communications forms the vital link, yet they have to skimp massively and rely entirely on UHF CB for their fleet operations. I already have many reactions from local operators regarding the 'commercial' type of users, however what I'm looking for is Austraia wide comment on the subject before I write more. Drop me a line with your opinion.

★ ★ ★

Anyone from Philips care to comment on why Sydney channels 3/33 and 7/37 have been off the air for such a long period of time? First off was the 3/33 episode some weeks before Easter when the repeater was down every weekend for many weeks, prompting many UHFers to think 3/33 was only being provided for commercials, then both 3/33 and 7/37 went down shortly after the ANZAC weekend, and been that way ever since.

Maybe Philips are sick and tired of providing a free service for the hordes of ratbags and power stations here in Sydney, and are giving the game away. In that case, when are Philips going to relinquish the 3/33 and 7/37 licences and let some other company in for their chop at providing a public service?

★ ★ ★

The address for mail to this column is: PO Box 358, Granville, NSW, 2142. Keep those letters coming.

The MONITOR

From page 54

1814 Vessel *Diva* advised would assist.

1842 Vessel *Vagrant* advised had cleared vessel *Southern Osprey* now on way to Spalding Cove to assist *Sovica*.

1843 *Apres Vous* advised wind has dropped a little — now making way to Lincoln Cove Marina.

1851 Police reaffirmed no recovery available from Port Lincoln.

1851 Received call *Lollipop* aground at Thistle Island.

1855 *Vagrant* advised now within 15 minutes of vessel in distress *(Sovica)*.

1932 *Vagrant* advised will attempt to get a line to *Sovica* with assistance from *Croweater* and two local fishermen. Request advise their families that they would be late home.

1932 Advised families as above.

1949 Received phone call from police re progress of rescue.

1959 *Croweater* advised *Sovica* towed to deeper water, now OK, anchored and holding.

2052 Received phone call from Adelaide re safety of *Miss Michelle*. I advised all OK.

2124 *Lollipop* advised had been refloated, towed off by *Longshot* (Thistle Island Pastoral).

2156 Routine call from yacht *Siesta*.

14/1/88

0049 Received call. Mayday call on 2.182MHz by Melbourne radio. Vessel *Grosdana* on fire, one mile south of Cape Catastrophe.

In contact with police, Adelaide Radio, Melbourne Radio, owners of vessel and *Grosdana* until 0205.

0205 Fire extinguished. Vessel anchored and safe although no engine power. Tuna fishing vessel *Boston Bay* standing by to tow *Grosdana* to Port Lincoln at first light.

0230 Off to bed for three hours sleep then begin days activities at 0530 hours to log weather observations for ABC and receive weather forcasts etc.

Mike 154

From page 43

Sydney's Mobilenet

In 1985, Swedish telecommunications company L.M. Ericsson Pty Ltd was awarded the contract to supply initial network equipment — computer-controlled exchanges, switching centres and associated hardware and software. Initial outlay for equipment was costed at some $15.7 million.

$10 million of this was directly associated with the Sydney service. Telecom's expenditure on the whole network is likely to be in the vicinity of $70 million during Mobilenet's primary expansion phase, over the next three years.

Testing of Sydney Mobilenet began in November 1986, by Telecom engineers and field staff. In January the following year, a number of customers took part in the evaluation programme.

Following the Telecom trials, indications were that both coverage distance and quality of operation exceeded initial expectations.

The harbour city's CMTS is served by 14 base stations. These are located at Newtown, Waverly, North Sydney, North Seaforth (Bantry Bay), Collaroy Plateau, Bilgola, Dural, Baulkham Hills, Rooty Hill, Liverpool, Bankstown, Sutherland, North Ryde and Pymble.

There are an additional five sites 'in reserve', which will be developed as the need arises. In most instances, the sites are centred on Telecom property, with the new antenna mounted on existing towers, or on new towers erected at current Telecom exchange sites. In some cases, the radio base station sites of Water Board installations have been pressed into service.

The entire Mobilenet service has been broadly based on the American and Canadian systems. Telecom has settled upon seven cells per cluster, a figure which allows for adequate re-use of all channels, but does not involve prohibitive expenditure on exchange equipment and base stations.

The smallest cell size will be two kilometres in diameter, and be employed in high-density areas such as the CBD. The largest will not exceed 10 km.

Scanner enthusiasts will find Mobilenet to be a bit of a bother. As with MTS, there are two bands of frequencies used — mobile transmit from 825-845 MHz, with base staions on 870-890 MHz. There are a total of 666 voice channels, with 21 'control' frequencies used by the system itself for handoff and allocation of voice channels.

The real problem is that the cellular customer will be hopping from one channel to another in rapid succession, making it difficult indeed to follow a particular conversation. In that respect, security of the system is good. And to cover Mobilenet frequencies, you'll need one of the super-scanners which reach to 900 MHz — ARO's 200, Yaesu FRG965, Realistic's PRO-2004, the Bearcat XLT-88 or Icom R7000.

But listening to telephone conversations on a scanner is illegal, of course, so you should forget that you ever read any of that . . !

Mobilenet Equipment

As mentioned earlier, perhaps the most exciting aspect of the Mobilenet system is what many see as the end of the 'Telecom monopoly'.

With the supply of telephone equipment open to the private sector, we have been treated to a variety of models, options and prices that can only make cellular even more popular than the already staggering success of the existing mobile telephone service.

The industry itself responded with great enthusiasm. The first brochures, advertisements and cellular equipment were seen even months before Mobilenet became operational, and cellular phones are now pushed daily on radio, TV and in the press.

For its own part, Telecom continues an aggressive, high-profile marketing of its own line of cellular units, under the 'Explorer' label. The three models cover the complete range of cellular equipment - hand-helds, mobiles and a transportable — each supplied and manufactured by leading electronics companies which have already had successful experience in overseas cellular systems.

Telecom's planning staff believe that the technology of CMTS will see a rapid growth in the popularity of the smaller, hand-held units. But that, of course, is just a part of the cellular range. If Telecom was looking for competition when it opened the door to private enterprise, it's not been disappointed.

Just look through the ads in this issue of CBA — Novatel, Philips, Uniden and more — joining with NEC, Mitsubishi and others. Most new cars can be bought with an optional cellular phone fitted, suitably re-badged to 'Ford' or 'GM', for instance.

The 'phones are now in briefcases, and pocket-sized portables. NEC have a three-in-one system that combines a hand-held with a mobile mount, handset with hands-free option and a linear amp, to boost the unit to the maximum three watts output.

The Future

Telecom has a few more tricks up its sleeve, just to cap off the network. For starters, there is talk of using national L-band transponder beams on the second ('B') series of Aussat satellites, which could eventually provide Australia-wide access to the system.

Then there is the question of how to keep enough space in the system for ever-growing customer demand. According to Telecom the Mobilenet should have sufficient capacity into the early 1990s. By then, the next step will be ready. It will be digital. The perfection, or at least fine-tuning of digital techniques, is already the focus of communications engineers throughout the world.

By the start of the next decade, the Digital Cellular Mobile Telephone System (DCMTS) will be with us. Advanced as it is, Mobilenet still uses analog voice signals between base stations and mobile units. By 'digitising' these transmissions at both ends, a massive increase in network capacity will be achieved.

With the digital system in place, it is expected to 'overlay' the current Mobilenet, so that the old and the new will, at least initially, operate in tandem. That will give us scanner freaks something to listen to until the optional digital decoders hit the shops.

If the response of the Australian public to colour TV, video cassette records, mobile telephones and Viatel is any indication — then the digital Mobilenet won't come a moment too soon!

Our thanks to Mr Bill Rawlings, from Telecom Public Relations NSW, for his assistance with this article.

New Gear

DATA MANUALS

The 1987 CQ Data Manuals with information on Japanese semiconductor devices have always been hard to obtain. Fortunately, Imark Pty Ltd has again secured a limited quantity from Japan. Brief details of the various 1987 manuals are as follows:

"THE TRANSISTOR MANUAL" lists all 2SA, 2SB, 2SC and 2SD devices and includes maximum and typical characteristics, typical uses, package configuration and complementary device information (397 pages). Stock Code 446 181.

"THE FET MANUAL" details specifications and package details on Japanese FETs (2SK, 3SK and others). Performance charts and typical circuit configurations are often supplied. (261 pages). Stock Code 446 184.

"THE MONOLITHIC CO AMP Manual" provides detailed specifications and package information for nearly 400 Advanced Micro Devices, Analogue Devices, Analogue Systems, Brown Burr, Fairchild, Intersil Inc, JRC Linear Technology, Motorola, Micro Power Systems, NEC, National Semiconductor, Precision Monolithics, Raytheon, SGS Ates, Signetics, Teldeyne Semiconductor and Texas Instruments devices. (393 pages). Stock Code 446 190.

"THE HYBRID OP AMP MANUAL" provides detailed specifications and package information for Analogue Devices, Ancom, Burr Brown, Datel-Intersil Inc, Intech, National Semiconductor Co, Teledyne Philbrick, CR Box and West Ace devices. (273 pages). Stock Code 446 167.

"THE INDUSTRIAL LINEAR IC MANUAL" (Parts 1 & 2) provides technical specifications and package details of Japanese-manufactured devices as well as devices made by Exar Corp, Fairchild, Harris corp, GE Intersil Inc, Motorola, National Semiconductor, Raytheon, RCA Corp, Signetics and Texas Instruments. Typical or suggested circuit designs are usually included with the details for each particular IC. Part 1: Stock Code 446 185 — 320 pages. Part 2: Stock Code 446 186 — 210 pages.

"THE TTL IC MANUAL" provides technical specifications, package details and lists worldwide manufacturers of the particular device. The manual includes details for 7400, 74000, 25LS, 9300 series and PAL devices. (472 pages). Stock Code 446 187.

"THE C-MOS IC MANUAL" provides technical specifications, package details and worldwide manufacturers for 4000B series, 4500B series and 74HC series devices. Truth and timing details are often included. (388 pages). Stock Code 446 188.

"THE MEMORY IC MANUAL" provides technical and package details, has tables of similar devices with their specifications and lists most major worldwide manufacturers' devices, including Japanese devices. Devices covered include static RAMs, clocked RAMs, dynamic RAMs, P-ROMs and UV-EPROMs. (493 pages). Stock Code 446 189.

"THE POWER & INDUSTRIAL SEMICONDUCTOR MANUAL" provides technical and package details as well as some typical circuits for over 600 power devices. Most devices listed are of Japanese origin. (401 pages). Stock Code 446 192.

"THE INTERFACE IC DEVICE MANUAL" provides technical and package details for nearly 500 devices used mainly with computers. Products made by Fairchild, Motorola, Signetics, Texas Instruments, AMD, National Semiconductor, Hitachi, SGS, Sanyo, Mitsubishi, Toshiba, Sprague and NEC are listed. (394 pages). Stock Code 446 193.

"THE A-D/D-A CONVERTER IC MANUAL" provides package outlines and technical details on over 800 devices made by Micro Networks Corp, Beckman, Analog Devices Inc, Hybrid Systems, ICL Data Device Corp, Datel-Intersil Inc, National Semiconductor Corp, Burr-Brown Corp, Matsushita, Maximum Integrated Products Corp, Micro Power Systems Inc, Advanced Micro Devices Inc, RCA Corp, Sony, Precision Monolithics Inc, Hitachi, Harris Co, Intersil Inc, Fujitsu, Motorola Inc, Oki, Signetics Corp, Plessey Ltd, Teledyne Philbrick Microcircuirs, Teledyne Semiconductors Corp, Toshiba, TRW Inc, Telmos Inc, Thomson Semiconductors, Ferranti Electronics Ltd and NEC. (410 pages). Stock Code 446 194.

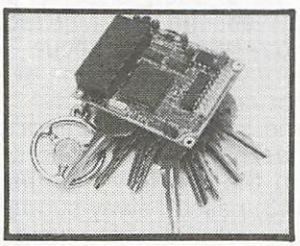
While each individual manual would provide a wealth of information for technicians and engineers etc, the complete set would provide an almost complete library of information on Japanese semiconductor devices.

Contact Imark at 167 Roden Street, West Melbourne, Victoria, 3003, or telephone (03) 329 5433.

CTCSS MODULE OFFERS MANY FEATURES

Sub-audible retro fitted boards have never had so many extra functions. An Australian company, GSA Technology Pty Ltd, is producing a CTCSS module that can encode and decode at the same time. The small module is field programmable for all 38 EIA sub-audible tones.

Intended for mobile radio use, the module designated GSA2310 also includes a Time Out Timer (TOT), Transmit Inhibit and repeater tail suppression. A high pass filter is also included on the PCB to ensure that no sub-audible tones get into the radio's audio amp.



Larger systems are catered for by the facility to link serial control from an external microprocessor. The model GSA2320 will encode and decode different tones at the same time.

"By including these features on a single PCB we feel the 2310 will have more appeal to the radio market than the current practice of fitting several boards," said marketing manager Max Pietruschka.

GSA Technology Pty Ltd is actively looking for international representation. Contact should be made with the marketing manager Mr Pietruschka.

Further information can be obtained from GSA Technology Pty Ltd, 511 Keilor Road, Niddrie, Victoria, Australia, 3042. Phone (613) 379 1828.

CLUB NEWS

ALBANY COMMUNICATIONS GROUP

Hello to the above group — welcome to Western Australia. They say that over the past few months they have had many outings — one of which was the annual Christmas party at Frenchman Bay. (We know that they are a little bit behind East coast timing — but it is June!)

A most enjoyable day was spent by all who attended. Games for the children were planned by Anita (ACG 17) ranging from cricket to rope skipping. Watermelon donated by Colin (ACG 47) and ice-cream, candies, drinks and hot dogs were provided by the group for the children, as well as a barbecue pack for every member attending. Since their last article, membership has increased to 63, the latest being Glen, from Rockhampton, Qld.

Activities since the Christmas party, have been a camp-out, a fishing weekend and just recently, a Sunday picnic barbecue which was very welcome on one of Albany's hotter days.

Some sad news to report. The club has had two members pass away in the last few months. Des (ACG 43) passed away suddenly at the age of 62. He resided at Bremmer Bay just east of Albany, and did not get a chance to meet all of the members — particularly the newer ones, but will be missed by all and will be a great loss to those who spoke to him on CB

Norm (ACG 16) was known by all and will be sadly missed as well. We will all miss his chuckle on the airways.

Future activities will include a boat outing on Oyster Harbour, a car trial and no doubt plenty of barbecues. As well as this, the club will conduct their Friday night skit on Channel 5 at 7.45 pm.

Incidentally, if anyone could suggest games etc, that can be played or conducted on CB, Albany Communications Group would appreciate all the suggestions it can get — either through the magazine or in writing to them directly.

CENTRAL WEST UHF REPEATER ASSOCIATION

The Central West UHF Repeater Association has been formed as an incorporated body to enable the achieving of several goals.

1. To establish a UHF CB repeater in the region, preferably on Mt Canobolas.
2. To maintain this repeater in operation.
3. To act as an information source for existing and potential UHF CB users.
4. To do such things as are necessary to facilitate radio communications in emergencies, eg bushfires, floods, snowfalls, medical emergencies, natural and personal disasters.

Field tests from the top of Mt Canobolas over the past two years have shown the potential area from which the repeater may be accessed to cover the zone bounded by Kandso, Rylstone, Mudgee, Dubbo, West Wyalong, Lake Cargelligo, Harden, Boorowa, Crookwell and Mt Victoria. It seems that at least a 200 km range is to be expected.

Given that all the test carried out so far have been done with a 6dB antenna on a vehicle roof, the area of coverage of the repeater is expected to expand when a tall tower and suitable repeater antenna are put into service. In practical terms, it is envisaged that a repeater user at say Crookwell, would be able to talk to another at, say, Mudgee, or from West Wyalong to Mt Victoria.

The Department of Transport and Communications (DoTaC) administers the relevant Act of Parliament which provides for the allocation of a pair of channels for each repeater to use, for example the Bathurst repeater uses 8 and 38. The range of channels from which a pair could be allocated are from 1/31 to 4/34 and from 6/36 to 8/38. The pair 5/35 are already reserved for emergency uses. The repeater at Mt Canobolas would only use one channel pair.

The cost of obtaining a licence, a permanent and serviced site, buying, erecting and maintaining a tower, antenna and repeater transceiver will not be slight. An early estimate suggests that about $10,000 to $12,000 will be needed. Ongoing costs will depend on site costs and the extent to which the equipment needs maintaining.

The association proposes covering the costs by offering membership at an annual subscription of $20 for individuals. Donations, both of money and technical expertise, are also to be sought. However, a target of 500 members at $20 each is being worked towards, although the registration of the Association and the application for the licence are proceeding with the expectation that the funds will be found.

A properly safeguarded trust fund is to be used for the subscriptions and a committee of management is to be elected following the first general meeting, which was held in Orange in late February. It is hoped that representatives from all parts of the region of coverage will be nominated and elected.

If you would find the ability to speak to all parts of the region with your UHF CB transceiver to be useful to you, please contact Bob Fenton on (053) 37 5660, or call Newbridge Base or Foxground Base on Ch 25 or via the Bathurst repeater — if you can get it. As no initial budget for advertising exists, your help in spreading the word and encouraging people to join is needed. Without at least 500 members in the association, the repeater cannot be put into service. In this event, all subscriptions will be returned, less the outgoings for registrations, licence applications, postage, printing and so on.

There will be more field tests from the top of Mt Canobolas, both by association members and probably by the Department of Transport and Communications personnel. Please respond to these tests and encourage others to do

so. I would note that the club has had signal reports from Hay, Hillston, Junee, Cobar, Gulargambone, Binnaway and Merriwa, indicating that the area of coverage may be larger than expected. This is to be investigated further in the near future. A portable mast and omni-directional antenna was erected for a weekend in February.

The Mt Canobolas repeater will provide UHF relay services for the largest single repeater area yet investigated. It will allow some people to have access to two repeaters, but for most of the users it will be the only repeater that they can access. Until it gets up and running, it is local use only and we all know how frustrating this can be at times.

Join the association and get others to join also. If you say to yourself: "I'll let the others get it set up and then just use it," there will be no repeater, so apply for a membership form and send in your $20.

AMATEUR AND CITIZENS RADIO CLUB

This great club was established back in 1076, no that's not right, 1976 and after 10 years of formal meetings combined with weekend radio camps, has today become an informal on air activity promoting all aspects of hobby radio.

Sydney hobby news broadcast station NDG427, operated by Sam Voron one of the founders of VKCB Club (who the hell are they Sam?) started the half-hour Sunday hobby news broadcast in October 1983. The programme is still heard almost five years later each Sunday on Channel 14 AM (27.125 MHz), Channel 20 USB on 27.205 MHz and Channel 14 FM on UHF 476.750 MHz. Times are 11.00 am and 7.30 pm.

The broadcast contains news from the world of hobby radio, CB radio, amateur radio, short wave listening, computers and electronics.

Sam receives weekly audio tapes from a NASA US space representative in Canberra with a five minute outer space report, Westlink 10 minute USA amateur news report from California, a 45 minute weekly ham radio programme from the International Amateur Radio network from US ham station K1MAN in Maine. Sam also has permission to record and replay Radio Australia's short wave listeners programme and Radio HCJB Quito, Equador, South America's "Ham Radio Today" programme on 14.275.

Amateur radio exams to be conducted every week. Up until now, if you wanted to become a radio ham and get into the worldwide communications hobby, you needed to sit for an exam held once every three months. But no longer. Now a volunteer exam system similar to that in the USA means ham radio is being really opened up to the whole community. Now you can do the multiple choice question paper whenever a volunteer exam is available. In Sydney, Sam will be holding these exams once a week. As Sam says over the CB airways, "Make 1988 the year you become a ham".

Study material which assumes 'you know nothing' is available and 'on air' amateur radio study is common on Channel 14 AM.

The group this year has organised a walkie-talkie day with Aussie flags on aerials and banners where hobby radio was part of the Willoughby procession through the streets. Unfortunately this had to be cancelled due to wet weather.

In September the group will be part of the Willoughby family fun fair with a 48 hour radio fun weekend at the local park.

Anyone who would like to contact Sam — write to 2 Griffith Ave, Roseville, 2069 or telephone (02) 407 1066.

QUEENSLAND BLUE HEELER

It certainly was great copy there the other night with Dale Hately (695) from Geelong. Look forward to hearing from you again. Anyone out there can give the 76 a call here in Sydney.

Terri Hately (696), club pres/sec has written in once again to keep readers in touch with their club events.

Their first major event was the QSL competition which was won by Fred (694) from Jandowae, Queensland. Fred has received a gold plated microphone set on a marble base, a wall certificate of confirmation plus 20 free QSL cards for his efforts. Kevin (0312) has moved from Ferntree Gully to Perth WA. Sure hope we can hear you way over there Kevin.

Welcome home to Jean (151) back from the USA and also to Louise (155) from New Caledonia. Louise's voice was heard under skip conditions in Queensland but did not make it to Victoria.

Bob Hawke will have to keep an eye on this group. It could be another Cuba up there in New Caledonia, what with Jean in the States and Louise flitting around the islands.

Terri needs a volunteer from the state of North Territory (Terri its a "TERRItory", not a state) and Tasmania for state representatives. The existing state reps are: Ron (984), PO Box 984, Maroochydore 4558, Rob (497) PO Box 486, Berri 5343, David (12) c/o Private Mail Bax 02, Warrimoo 2774, Terry (239) c/o PO Box 649, Geelong 3320 (Terry is also rep for WA).

There must be a member or two in Tassie or the Territory who can help out as reps.

Terri goes on to say that in Victoria they will be holding their BBQs at regular intervals throughout the year in the months of February, June and October. Terri also goes on to say that she will have them in as many locations as possible and she will send out as many invitations as the bank will permit.

SYDNEY RADIO GROUP

Two big news items, firstly the Field Day is to take place on the 3 July, yes that's right the 3rd — not the 17th. Also tickets will be available for the Super Bengal Mk III raffle which will be drawn on the day.

Secondly the exciting Bicentennial news for the club is that their newsletter 'Sydney On The Side' is now being professionally printed. The current issue, we note, has as usual several projects plus other interesting articles. Several new members have appeared on their list — Lester (SR112) in Melbourne, Mark (SR68), Neil SR82) and Hans (SR84) from Perth, Western Australia. Rumour has it that another new member from North America is now on their books.

Thanks to the clubs who have written over the last few months. Now that you have written once, keep the news coming. Those who have not written in yet (how about it Brolga 25?), we look forward to hearing from you. The address is: Club News, PO Box 184, Northbridge 2063.

AUSTRALIAN UHF REPEATER LIST

AREA	CHANNEL	LOCATION	SPONSOR
New South Wales			
Newcastle	1/31	Charleston	—
Jindabyne	1/31	Corinya Alpine Centre	Marist Brothers
Sydney	1/31	Hurstville	Practronics
Corowa	1/31	Corowa	Corowa Electronics
Tamworth	1/31	Windworth	Landlink Communications
Harden	1/31	Mt Bobbara	—
Wilcannia	1/31	Murtee Station	—
Canberra	2/32	Isaacs Ridge	Philips Communications
Parkes	2/32	Parkes	Bionics Australia
Narrabri	2/32	Castletop Mountain	Lance Hannaford Elect.
Walbundrie	2/32	Walbundrie	Corowa Electronics
Lismore	2/32	Raus	—
Murrundi	3/33	Liverpool Range	—
Sydney	3/33	Prospect	Philips Communications
Tenterfield	3/33	Mt McKenzie	Nathan Ross Electronics
Denniliquin	3/33	Denniliquin	Deniliquin Machinery
Tumbarumba	3/33	Mt Ikes	—
Armidale	4/34	Armidale	New England Mobile Comm's
Goulburn	4/34	Mt Gray	Double Diamond
Albury	4/34	Lavington	Albury Communications
Muswellbrook	4/34	Mt Arthur	General Communications
Bega	6/36	Mumbulla Mountain	Athol McCoy Two-Way Radio
Newcastle	6/36	New Lambton	General Communications
Coffs Harbour	6/36	Coffs Harbour	Country-wide Communications
Moree	6/36	Terry Hi-hi	Des Groth Radio-Electronics
Cowra	7/37	Bellview Hill	Harvey Electronic Service
Sydney	7/37	Chatswood	Philips Communications
Bulahdelah	7/37	Cabbage Tree Mt	Great Lakes UHF Rpt Group
Wagga	7/37	Wagga	Riverina Communications
Glen Innes	7/37	Mt Rumbee	Glen Innes Amatuer Radio Club
Bathurst	8/38	Mt Panorama	Serv-U Appliance Centre
Sydney outer-west	8/38	Kurmond	Riverlands Rpt Group
Wollongong	8/38	Robertson	Phil Day
ACT			
Canberra	2/32	Isaacs Ridge	Philips-TMC
Canberra	8/38	Isaacs Ridge	Philips-TMC
Victoria			
Hamilton	1/31		
Bairnsdale	1/31	Mt Nugong	Bairnsdale Communications
Melbourne	1/31	Broadmeadows	Philips Communications
Alexandra	1/31	Mt Eildon	Weeks Radio
Mansfield	2/32	The Paps	—
Moe	2/32	Moe	Gippsland Rpt Assoc.
Ballarat	2/32	Mt Buninyong	Central Highlands Rpt Assoc.
Lorne	3/33	Weeaproinah	—
Melbourne	3/33	Lysterfield	Philips Communications
Yelta	3/33	Yelta	Nor-Co Sales & Service
Strathbogie Rngs	3/33	Mt Wombat	Goulburn-Murray Rpt Group
Bendigo	4/34	Specimen Hill	Central Vic. Rpt Assoc.
Carrajung	4/34	Carrajung	Carrajung UHF CB Rpt Assoc.
Hawkesdale	4/34	Hawkesdale	—
Hamilton	5/35		
Melbourne	5/35	Olinda	Paravic Sports Assoc.
Foster	6/36	Mt Fatique	Gippsland Rpt Assoc.
Ararat	6/36	Mt William	Mt William UHF Rpt Committee
Wangaratta	6/36	Warby Ranges	Corowa Electronics
Gippsland	7/37	Mt Taylor	Gippsland Rpt Assoc.
Shepparton	7/37	Shepparton	Angus Communications
Ballarat	7/37	Mt Bolton	—
Melbourne	7/37	Frankston	Powerband Communications
Myrtleford	8/38	Mt Porepunkah	—
Bendigo	8/38	Mt Alexander	—
Cavendish	8/38		
Portable Vic.	Various	State-wide	Omega Radio Club
Queensland			
Leichhardt	1/31		
Middlemount	1/31		
Bundaberg	1/31	Mt Perry	Bundaberg HI-Fi Stereo
Mt Isa	1/31	Lake Julius	Qld Education Dept.
Brisbane	1/31	Mt Cotton	Philips Communications
Rockhampton	1/31	Mt Archer	Capricornia UHF Rpt Assoc.
Atherton-Mareeba	1/31	Rocky Creek	Marteens Electrtonics
Mt Stewart	1/31	Mt Stewart	Olbis Industries
Roma	1/31	Mt Bassett	Roma Teleradio
Clermont	1/31	Clermont	—
Gunalda	2/32	Mt Kanigan	Ralph Hill Electrical
Taroom	2/32	Mt Kinnoul	Taroom Rpt Assoc.
Toowoomba	2/32	Picnic Point	Custom Scientific Electronic
Marlborough	2/32	Broadsound Range	Marlborough UHF Rpt Assoc.
Quilpie	2/32	Trinidad Station	D.E.A. Pegler & Co.
Ingham	2/32	Mt Cudmore	R.E. Pugh
Mackay	3/33	Farleigh	Mackay Citizens' Rpt Group
Monto	3/33	Pine Mountain	Monto UHF Rpt Committee
Chinchilla	3/33		

Tin Can Bay	3/33	Double Island Point	Tin Can Bay Lions Club
Springsure	3/33	Rodda Lookout	Bauhina S.E.S.
Cairns	3/33	Mt Yarrabah	GCG Communications
Bajool	4/34	Mt Hopeful	Mt Hopeful UHF Rpt Assoc.
Dalby	4/34	Mt Mowbullan	G.T. Communications
Bundaberg	4/34	The Sloping Hummock	Bundaberg Hi-Fi Stereo
Goondiwindi	4/34	Goondiwindi	Border TV & Radio
Gold Coast	4/34	Coolangatta	Philips Communications
Brisbane	5/35	Mt Glorious	ACRM (Qld)
Caloundra	6/36	Bald Knob	Ralph Hill Electrical
Gladstone	6/36	Mt Larcom	Nixon Controls
Palm Island	6/36	Palm Island	Palm Island Council
Blackdown	6/36	Blackdown Tableland	Blackdown UHF Rpt Assoc.
Burnett Ranges	6/36	Mundubbera	Custom Scientific Electrical
Yaraka	7/37	Mt Slowcombe	Yaraka Rpt Assoc.
Brisbane	7/37	Toohey Mountain	Olbis Industries
Murgon	7/37	Mt England	Murgon Rpt Assoc.
Biloela	7/37	Mt Bertha	Biloela Rpt Assoc.
Mt Alexandra	8/38		
Emerald	8/38		
Pialba	8/38		
Milaa Milaa	8/38		
Stanthorpe	8/38		

South Australia/ Northern Territory South Australia/ Northern Territory

Adelaide	1/31	Summerton	Philips Communications
Carrieton	1/31	Price Hill	—
Darwin	1/31	Darwin	Seascan Communications
Black Rock Peak	2/32	Black Rock Peak	Toops Electrical
Cleve	2/32	Mt Nield	Cleve Rpt Assoc.
Myponga	2/32	Myponga Hill	Volunteer Coast Guard
Adelaide	3/33	Trott Park	Philips Communications
Blinman	3/33	Patawarta Hill	—
Barossa Valley	4/34	Anguston	—
Kangaroo Island	4/34	Parndana	Kangaroo Island Rpt Assoc.
Snowtown	4/34	Snowtown	—
Naracoorte	4/34	Lucindale	Naracoorte UHF Rpt Assoc.
Adelaide	5/35	Hawthendorne	ACRM (SA)
Renmark	6/36	Renmark	—
Whyalla	6/36	The Bluff	Mt Remarkable Council
Clare	7/37	Quarry Hill	Mid-North Rpt Assoc.
Mt Gambier	7/37	The Bluff	South-east UHF Rpt Assoc.
Mt Bryan	8/38	Mt Bryan	Mt Bryan Rpt Assoc.
Port Lincoln	8/38	Tumby Bay	Sth Eyre Peninsula Rpt Assoc.
Portable SA	Various	State-wide	ACRM (SA)

West Australia

Denmark	1/31	Denmark	—
Kellerberrin	1/31	Kellerberrin	Central Wheatbelt Rpt Group
Meekatharra	1/31	Hill View Station	—
Perth	1/31	Wanneroo	Philips Communications
Wickham	1/31	Wickham	Wickham Radio Club
Bencubin	2/32	Bencubbin	—
Bunbury	2/32	Shenton Ridge	Greyhound TV Sales
Albany	3/33	Mt Melville	—
Perth	3/33	Roleystone	Philips Communications
Boyup Brook	4/34	Dinninup	Boyup Brook Farm Comm's Group
Esperance	4/34	Esperance	—
Kulin	4/34	Kulin	—
Lancelin	4/34	Lake Karakin	Gingin Shire Council
Perth	5/35	Maddington	CREST (WA)
Margaret River	6/36	Ellen Brook	UHF Association of WA
Mt Marypeaks	6/36	Mt Marypeaks	—
Wyalkatchem	6/36	Wyalkatchem	D. & G. Pearce
Mt Barker	7/37	Mt Barker	Plantagenet Rpt Group
York	7/37	Mt Bakewell	York Rpt Group
Coolgardie	7/37	Mt Burgess	—
Manjimup	8/38	—	
Ravensthorpe	8/38	—	
Portable WA	8/38	WA-wide	Gary, WAX-723

Tasmania

Devenport	1/31	Roland	Rick Rickard, TAJ-652
Hobart	1/31	Grass Tree Hill	Southern Tas. Rpt Assoc.
Launceston	2/32	Mt Arthur	Launceston Rpt Assoc.
Devenport	3/33	Railton	Rick Rickard, TAJ-652
North-East Coast	3/33	Tower Hill	North-East Rpt Assoc.
Tasmanian Midlands	4/34	Millers Bluff	Midlands Rpt Group
Hobart	5/35	Mt Faulkner	CREST (Tas.)
East Coast	6/36	Mt Toombs	East Coast Rpt Assoc.
West Coast	6/36	St Valentines Peak	North-West Coast Rpt Assoc.
Central Highlands	7/37	Barren Tier	Central Highlands Assoc.
Burnie	8/38	Round Hill	North-West Coast Rpt Assoc.
Hobart	8/38	Mt Nelson	Harts Pty Ltd
Portable Tas	Various	Tasmania-wide	Rick Rickard, TAJ-652

Please help us keep this list up to date and of use to UHF operators everywhere... send details of new repeaters, services, allocations (and any corrections to this list) to — CRA Repeater List, PO Box 358 Granville NSW 2142.

CB Action Club Register

NSW

49ers DX Club of Australia, PO Box 373 Gymea NSW 2227
AA UHF CB Radio Group, 13 The Circle Narraweena NSW 2099.
ACRM (Sydney Divn), PO Box 13A Fairfield NSW
ACRM (New England Divn), PO Box W33 West Tamworth NSW 2340
ACRM (Nowra Divn), PO Box 696 Nowra NSW 2541
Amateur and Citizens Radio Club, 2 Griffith Ave, Roseville NSW 2069.
Argonauts Radio Contact Club, C/- PO Railway Town NSW 2880.
Barrenjoey Peninsula Area CB Radio Club, PO Box 25, Avalon NSW 2107.
Beef Country Radio & Recreation Club, PO Box 852, Casino NSW 2470.
Berowra CB Radio Club, PO Box 2, Berowra NSW 2081.
Blue Mountains Repeater Association, PO Box 358, Granville NSW 2142.
Bravo Victor Radio Club, C/- 11 Canning St Bega NSW 2550.
BWA Boorowa CB Club, PO Box 34 Boorowa NSW 2586
CB Callbook Club of Licensed Operators, 18 Malvina Parade, Gorokan, NSW 2263.
Central Western Citizens Band Community Radio Club, PO Box 628 Orange NSW 2800.
Central West UHF Repeater Assoc. Inc PO Box 1062 Bathurst 2795
Charlie Tango CB Radio Group, PO Box 295 Dee Why NSW 2099
CREST Citizens Radio Emergency Service Teams NSW C/- 9 Davies St. Dubbo NSW 2830
Disabled Water Sports Charity No 2023, C/- PO Saratoga NSW 2250.
Echo Victor Whiskey Radio Club of Newcastle, 6 Cheryl Close, Elermore Vale, NSW 2287.
Eleven Mike, PO Box 357, Singleton NSW 2330.
Eureka Base CB Radio Club Friends of Brain Injured Children, PO Box 12, Blacksmiths 2281.
FM CB Radio Owners Unite, PO Box 40, Gladesville, NSW 2111.
Foxtrot November DX Club, PO Box 373 Gymea 2227
G.L.C. Eastern Bases CB Radio Club, PO Box 767, Gosford NSW 2250.
Gladiator CB Radio Group, 9 Ashland St. Alstonville NSW 2477
Gosford Citizens Radio Club, PO Box 447, Gosford NSW 2250.
Greater Cessnock City Radio Association, 48 Mayfield St, Cessnock NSW 2325.
Hill Billy Radio Club, PO Box 683 Taree NSW 2430
JMG CB Club 2 Barana Pde., East Roseville 2069
Just Enough Radio Club, PO Box 2799 Blayney NSW 2799.
Lakemba Area Radio Club, PO Box 508 Kogarah 2217
Leisure Coast CB Radio Club, PO Box 1127, Wollongong, NSW 2500.
MacLeay Valley CB Radio Club, PO Box 34, Kempsey NSW 2440.
Mallee Radio Australia CB Radio Club, PO Box 920, Griffith NSW 2680.
Metropolitan Radio Club, PO Box C31 Clarence St. Sydney NSW 2000.
Metropolitan West Radio Club, 74 Van Diemen Ave, Willmot NSW 2770.
Mike India CB Radio Club, PO Box 778, Campbelltown NSW 2560.
Moonlighters District Radio Club, PO Box 13, Hawks Nest NSW 2324.
National Dingo Association C/- Smithville via Broken Hill NSW 2880.
Newcastle Cyclist CB Club, 3 Hill St, Wallsend NSW 2287.
North Shore Radio Club, PO Box 236 Pymble NSW 2073.
November Alpha Club, PO Box 412, Narrandera NSW 2700.
Overland Radio Club Inc (Sydney Branch), PO Box 295, Dee Why Sydney NSW 2099.
Parkes Citizens Band Radio Club, PO Box 525 Parkes NSW 2870.
Pathfinder CB Social Club of Aust. Queanbeyan/Canberra Div PO Box 771, Queanbeyan NSW 2620.
Pathfinder Radio Group NSW, PO Box 167, St Mary's NSW 2750.
Pioneer CB Radio and Social Club, PO Box 34, Boolaroo NSW 2284.
Radio Rescue Inc. (NSW) Branch Operations Director, Galong NSW 2585.
REACT Hunter Valley D/7 Victory Pde., Wallsend 2287
REACT NSW State Team, 476 Parkinson St, Albury, NSW 2640.
REACT 4WD Rescue Service, 476 Parkinson St, Albury NSW 2640.
Riverina Radio CB Social Club, 29 Parkinson Cres, Griffith NSW 2680.
Rough As Guts Radio (RAG), C/- PO Box 129 Wamberal NSW 2250
Skydivers CB Radio Club, Unit 5/3 Washington Avenue, Riverwood NSW 2210.
Shallow Water Sierra Whisky Club, PO Box 857, Nowra NSW 2540.
Sydney Radio Group, PO Box 184, Northbridge NSW 2063.
Tango Romeo Echo CB Club, PO BOx 688, Taree NSW 2430.
Tango-X-ray Side-band Radio Club of Australia, PO Box 664, Castle Hill NSW 2154.
The Beam Club of Australia, PO Box 633, Brookvale NSW 2100.
The TT UHF CB Radio Club, c/o PO Box C31 Clarence St. Sydney NSW 2000.
Titan Radio Group, PO Box 195 Blacktown NSW 2148.
United Citizen Band Radio Clubs of NSW, PO Box 104, Strathfield, NSW 2135.
Viking CB Radio Club, PO Box 133 Miller NSW 2168.
Western Radio Club, PO Box 666 Blacktown NSW 2148.
Whisky Lima Radio Club, PO Box 139 Revesby NSW 2212.
Williams Valley Radio Club, PO Box 50 Dungong NSW 2420.
Wombat CB Radio Club, PO Box 348, Lavington NSW 2641.
YMCA-New England Emergency Radio Unit, PO Box 681 Armidale 2350.

WA

ACRM Australian Citizen Radio Monitors WA Inc., PO Cox 141 Capel WA 6271.
ACRM WA South West Division 68 Rogers Avenue, Katanning 6317.
Albany Commns Group 65 Hassells St. Elleker Albany WA 6330.
Alpha Whiskey Alpha Radio Club, 180 Bay View Dve Little Grove Albany WA 6330.
Australian Radio Group, PO Box 1118, Fremantle 6160.
Aust Radio Group, PO Box 429, Merredin WA 6415.
Black Swan CQDX Club, PO Box 626 Rockingham 6168
Bunbury Radio Club Inc, PO Box 31, Bunbury WA 6230.
Canning River Radio Club, 53 Parkside Ave, Mt Pleasant WA 6153.
Carnarvon Radio Club, PO Box 294, Carnarvon WA 6701.
CREST WA (Inc) PO Box 1200, East Victoria Park WA 6101.
Echo Radio CB Club, PO Box 519, Claremont, WA 6010.
Freedom Group Perth, PO Box 9, Palmyra WA 6157.
Gascoyne CB Club, PO Box 947 Carnarvon WA 6701.
Golden Hawk CB Radio Club of Australia, PO Box 1183, Bunbury WA 6230.
Katanning CB Club, C/- PO Box 51, Katanning 6317.
Kookaburra CB & Social Club, 453 Sevenoaks St., Beckenham 6107.
Perth Acrem and Mustang CB Social Club, PO Box 193, Greenwood WA 6024.
Perth Metropolitan Radio Communications Group and Volunteer
Pilbara Radio Group, PO Box 95, Parraburdoo WA 6754.
Port Hedland Whisky Alpha CB Club, PO Box 2142, South Hedland WA 6722.
Quokka Radio Club, PO Box 12 Rockingham WA 6168.
REACT WA State Team, 8B Frisby Crt, South Hedland, WA.
Rescue (Inc) PO Box 575 Cannington 6107
Sandgroper Club of South West WA, PO Box 249 Collie WA 6225.
Scorpion Intnl CB Radio Club of WA, PO Box 51 Rockingham WA 6168.
Southern River Radio Group, PO Box 38 Kelmscott WA 6111
The Mango Club, PO Box 241, Hillarys WA 6025.
The UHF Assn of WA Inc, PO Box 176, Hillarys WA 6025.
Titan Radio Group, PO Box 210, Kwinana WA 6167.
Wanneroo Citizens Radio Emergency Services Teams WA Inc, PO Box 402, Wanneroo WA 6065.
West Coast Radio Club, PO Box 270 Hillarys 6025
Western Radio Club, PO Box 484, Collie WA 6225.
Wild Geese International Combat Veterans Radio Communications Group, PO Box 673, Cannington WA 6107.
York Repeater Club, Box 40 Beverley 6304

QLD

ACRIM QLD Inc, PO Box 213, Everton Park Brisbane Qld 4053.
Australian Bulldog Club, 37 Sunderland St, Garbutt Townsville Qld 4814.
Australian International CB Social Club, PO Box 150, Inala Qld 4077.
Brisbane Volunteer Emergency Monitoring Service, 22 Reis St., Buranda 4012.
Brisbane Four Wheel Drive Radio Club, PO Box 29 Mt. Gravatt East 4122
Bunya Radio Club, PO Box 575, Kingaroy Qld 4610.
CB Callbook Club of Licensed Operators, PO Box 593 Palm Beach 4221.
Color Postcard Express International QSL and Postcard Swap Club (Australian Rep), PO Box 111, Oakey Qld 4401.
Delta United Radio Group Ltd, 3 Bedarra St, Inala 4077.
Dirty Water CB Club of Australia, PO Box 262, Bulimba Qld 4170.
Gladstone Radio CB Social club, PO Box 1466 Gladstone 4680
Hervey Bay and District CB Club, PO Box 382, Pialba Qld 4655.
Inlanders CB Radio Club of Australia, PO Box 5712, Rockhampton Mail Centre Qld 4702.
KKK 106 Radio Club, PO Box 6547, Goldcoast Mail Centre Qld 4217.
Leichardt CB Radio Club, PO Box 941, Mt Isa Qld 4825.
Musketeer Club, PO Box 135, Ferny Grove 4055.
National Dingo Association, PO Box 34 Finch Hatton Qld 4756
Radio Rescue Inc (Qld Bch) State President 2 Widt St Moura 4718
REACT QLD State Team, Box 5227, Cairns Mail Centre Nth Qld 4871.
Rockhampton Citizens Band Radio Club, PO Box 5230, Rockhampton Mail Centre 4702.
Rum City CB Club, PO Box 229 Qld 4670
Sunshine Coast CB Radio Club, PO Box 379, Maroochydore, Qld 4558.
Southern Cross Radio Club Inc., PO Box 529, Darra, Qld 4076.
The United Pheasant Pluckers, South Calliope St, Springsure 4722.
Toowoomba District CB Club, PO Box 5387, Toowoomba Qld 4350.

CB Action Club Register

Toowoomba Mountain CB Club, PO Box 5299, Toowoomba Qld 4350
Tru Blue Radio, PO Box 379 Blackwater 4717
Ultra-lite Radio Club of Australia, PO Box 191, Carina 4152.
Unicorn Radio of Australia, PO Box 787 Woodridge Qld 4114.
Volunteer Emergency Monitors Caboolture, 96 Bishop St., Beachmere 4510.
Zulu Alpha Foxtrot CB Radio Club, PO Box 5122, Rockhampton Mail Centre Qld 4701.

SA

Australian Association of Citizens Band Radio Operators Inc., PO Box 146 Plympton 5038.
Australian Citizen Radio Monitors SA Inc (ACRM), PO Box 83, Prospect SA 5082.
Australian Independent Monitoring Service Inc, SA Division, PO Box 86, Stepney SA 5069.
Breakaway CB and Social Club of SA, PO Box 109 Edwardstown 5039
Buccaneer Radio Club, PO Box 239 Kilkenny 5009.
Charlie X-Ray Citizen's Band Radio Club Inc., PO Box 824, Salisbury SA 5108.
Christie's Beach Citizens Band Radio Club, PO Box 22, Moana SA 5169.
Coonawarra CB Radio Club, 2 Eyre St, Barmera SA 5345.
Eagle Radio Group, PO Box 302, Morphett Vale SA 5162.
Eureka Base CB Radio Club Friends of Brain Injured Children, PO Box 633, Elizabeth 5112.
Hahndorf Radio Stations (HRS), PO Box 44, Hahndorf 5245.
I Hate Washing Dishes, PO Box 210, McLaren Vale SA 5171.
Kilo Bravo Radio Club, PO Box 317, Brighton-Le-Sands 2216.
Linear Radio Club, PO Box 70, Elizabeth Fields, SA 5113.
Modbury West QSL Club for Members of the Scout Association, PO Box 36 Modbury North SA 5092
Overland Radio Club Inc., PO Box 1010 Murray Bridge 5253.
REACT Marine Rescue Service, 1 Flavel Terrace, Murray Bridge, SA 5253.
REACT SA State Team, PO Box 1321, Murray Bridge 5253.
Riverland CB Club, PO Box 582, Loxton 5333.
Scorpion CB Radio Club, PO Box 312, Elizabeth SA 5112.
Southside CB Radio Club, PO Box 95, Glenelg SA 5045.
South West Radio and Social Club Inc, Box 381, Morphett Vale SA 5162.
Sovereign Base Social and Radio Club Inc., PO Box 526 Elizabeth 5112.
SPEAK Wireless Club International, PO Box 948, Murray Bridge 5253.
Strangers CB Social Club, PO Box 79, Ingle Farm SA 5098.
Trans-World CB Radio Club International, 90 Crozier Ave, Daw Park SA 5041.
UHF Monitoring Committee, PO Box 35 Woodville 5011
Zulu Whiskey QSL Club, PO Box 16, Smithfield, SA 5114.

VIC

Alpha Hotel CB Radio Club, 6-14 Acacia Ave, Ararat 3377.
Australian Radio Social Club, PO Box 222, Seaford Vic 3198.
A1 U-Beaut Okker Radio Club of Aust., PO Box 150 Moe Vic 3840.
Baker Sugar Baker Social Radio Club, 34 Rodney St., Bendigo 3550.
Bell Bird CB Club, PO Box 95 King Lake 3763
Bendigo Radio CB and Social Club Inc., PO Box 862, Bendigo, Vic. 3550.
Bendigo Sideband Radio Club Inc., PO Box 277, Bendigo 3550.
Bingo Cheerio Group, PO Box 1292 Richmond North 3121.
Bravo Bravo CB Club,7 Yanakie St., Morwell 3840.
Bravo Mike Radio Club, PO Box 94, Melton Vic 3337.
Campaspe Radio/QSL Group, 120 Mollison St Kyneton 3444
Carrajung UHF CB Repeater Assn, PO Box 55, Port Albert Vic 3971.
Cobram & District Coffee Club, PO Box 478, Cobram 3644.
De La Salle College UHF CB Class, 1818 High St., Malvern 3144.
Diamond Valley Vigilantes, C/o PO Box 357 Greensborough 3088
Falcon Radio, PO Box 104, Port Fairy 3284.
Fosters CB Radio Club, PO Box 229, Cranbourne Vic 3977.
Fosters CB Radio Club (NSW Branch), PO Box 325, Fairfield 2165.
Gippsland CREST, PO Box 460, Warragul 3820.
Gippsland Emergency Monitoring Service (Inc), PO Box 983 Morwell Vic 3840.
Gippsland Repeater Assocn, PO Box 77, Sale Vic 3850.
Goulburn Murray Repeater Group Inc, PO Box 250 Euroa 3666.
Grampians BC Club, C/- J. Delley, 1 Johnston St, Stawell Vic 3380.
Grampians CB Radio Club, PO Box 41 Stawell 3380
Horsham CB Club, PO Box 730, Horsham Vic 3400.
International Crusade Assocn, PO Box 2616W, GPO Melbourne Vic 3001.
Jack Daniels Whisky Club, PO Box 278 Preston Vic 3072.
Kelly Radio Club, PO Box 95 King Lake 3763
Kilowatt Radio Club of Australia, PO Box 428, Mt Eliza Vic 3930.
Mary Delta 27 MHz Radio Club, 31 Rosebud Pde, Rosebud Vic 3939.
Mike India CB Radio Club, PO Box 1499, Mildura Vic 3500.
Mongrel Radio Social Club, 43 Bannister St. Nth Bendigo 3550.
Nightowl Radio Club of Victoria, PO Box 97, Huntingdale Vic 3166.
Omega Radio Club of Victoria, PO Box 50, Chadstone Centre Vic 3148.
Perfume City Pirate Radio Club, PO Box 10, Pearcedale 3912.
Queensland Blue Heeler Social Radio Club, PO Box 649 Geelong Vic 3220.
Radio Charity Group, Latrobe Valley, PO Box 237, Churchill Vic 3842.
Radio Emergency Associated Communications Team, 113 Blair St, Portland 3303.
Radio Enthusiasts Club of the Blind, PO Box 219, Glenroy Vic 3046.
Radio Rescue Inc. (Vic) Regional Co-ordinator, 117 Bruce Rd, Safety Beach 3936.
REACT VIC State Team, 5 Damian Crt, Wodonga Vic 3690.
REACT 4WD Rescue Service, 5 Damian Crt, Wodonga 3690.
Region Dandenong CB Radio and Social Club, PO Box 57, Doveton Vic 3177.
Ringwood & District Radio & Social Club, PO Box 496, Croydon 3136.
Riviera Radio Club of Australia, C/- P. Robertson, 19 Taylor St, Bairnsdale Vic 3875.
Royal Volunteer Coastal Patrol, PO Box 182 Brighton Vic 3186.
Ethnic Ether (Double EE) Assocn, 31 Bride St Hampton Park Vic. 3976.
Scramblers CB Radio Club of Vic., PO Box 103, Braybrook, Vic. 3019.
Sierra X-Ray Radio Group, 18 Crinigan Rd, Morwell 3840.
Southern Cross Radio Group, PO Box 365, Leongatha Vic 3953.
Sovereign Radio Club, PO Box 21, Sebastapol, Ballarat Vic 3356.
Tango Victor Radio Club, PO Box 3, Timboon Vic 3268.
The Black Panther DXing Social Club, PO Box 527 Bendigo Vic 3550.
The Thunder Down Under Club, PO Box 1149, Hoppers Crossing 3030.
Ultra-Hi Club, 8 Peter St, Bell Post Hill Vic 3215.
Victorian Scorpion Radio Club (South Gippsland), 39 Quigley St, Morwell Vic 3840.
Victorian Sideband Pirates 52-Xray Group, c/o PO Box 297, Moorabbin 3189.
Victoria UHF Radio Club Inc, PO Box 407 Mount Waverley Vic 3149.
Whisky Bravo Social and Charity CB Radio Club Inc., PO Box 614 Moe Vix 3825.
Whisky Bravo CB Radio and Social Club, PO Box 246 Churchill 3842
28 Whiskey Group Social Club Base of Vic, PO Box 755 Moe Vic 3825.

TAS

ACRM (Tasmania Divn) C/o Post Office Jericho, 7030
Blue Lagoon Social Radio Club, 9 Walker St. Ulverstone Tas. 7315.
FIB UHF Club, PO Box 18, Ridgley Tas 7321.
LT Club Incorporated, PO Box 626 Launceston 7250.
Radio Tasmania Assocn 185 Derwnet Ave Lindesfarne 7015
REACT Tasmania State Team, RMB 7055, National Park, Tas. 7140.
Sierra Tango Radio Club, PO Box 433, New Norfolk Tas 7140.
Tassie Beavers, 47 Mark St, Hillcrest, Burnie 7320.
Ulverstone Radio Operators Club PO Box 432 Ulverstone Tas 7315.
United Frequency Operators of Tasmania, 7 Jacob Ave, Georgetown Tas 7253.

NORTHERN TERRITORY

Australian Citizen Radio Monitors, NT branch Inc, PO Box 40327, Casuarina NT 5792.
Darwin CB Radio Club, PO Box 40733, Casaurina, NT 5792.

INTERNATIONAL

Alfa Tango Internatinal DX Group, PO Box 140 14100 ASTI, Italy.
Dayglo QSL Club, 13 Synite Place, Rostrevor, BT34-3EP, Co Down, Northern Ireland, UK.
Ethnic Ether (Double EE) Assocn, 31 Bride St Hampton Park Vic 3976
Golf Delta X-Ray (SW UK) PO Box 15 St Austell, PL25-4AA, Cornwall United Kingdom
Gumboot QSL Club, PO Box 4127, New Plymouth 4630 New Zealand.
Lakeside QSL Club of Australia PO Box 593 Palm Beach Qld, Australia 4221.
Lima Delta Association, PO Box 63 Dunstable BEDS LU6 3DR England.
REACT Australia Inc. Headquarters, 1 Flavel Tce, Murray Bridge 5253.
REACT Intrnational Inc., 242 Cleveland, Wichita KS 67214 USA.
REACT NZ CH5000, PO Box 22 — 527 Christchurch, NZ.
Three Vikings QSL Club, PO Box 34, 642 21 Katrineholm Sweden.
Transworld Sidebanders (The X-Ray Club), PO Box 386 Wanniassa 2903
Unite Mike Mike International, PO Box 23, B4650, Herve, Belgium.
Wainui Radio Club, PO Box 836, Wellington NZ.

ACT

Pioneer Radio Assocn. ACT Group, PO Box 76, Curtin, Canberra 2605.
Wild Geese International Combat Veterans' Radio Communications Group, PO Box 200, Dickson 2602.

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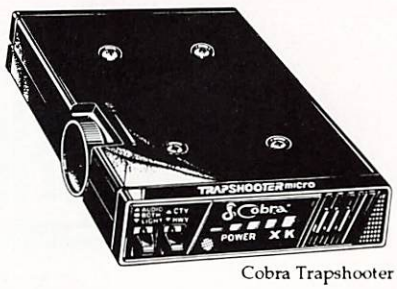

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